

**HIV/AIDS Prevention
Early Intervention
and Health Promotion**

***A Self-Study Module
for Health Care Providers
Serving Native Americans***



**NATIONAL NATIVE AMERICAN
AIDS PREVENTION CENTER**



**MOUNTAIN PLAINS AIDS EDUCATION
AND TRAINING CENTER**



Based on the *HIV/AIDS Prevention, Early Intervention, and Health Promotion: A Self-Study Module for Rural Health Care Providers* developed by the Mountain Plains AIDS Education and Training Center and Sara Martin, MPH, Donna Anderson, PhD, MPH, and Steven Johnson, MD.

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HIV/AIDS Prevention, Early Intervention, and Health Promotion: A SELF-STUDY MODULE FOR HEALTH CARE PROVIDERS SERVING NATIVE AMERICANS JUNE 2001

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CONTINUING EDUCATION INFORMATION

Completion of HIV/AIDS Prevention, Early Intervention, and Health Promotion: A Self-Study Module Health Care Providers serving Native Americans qualifies eligible professionals to receive AMA PRA Category I or Nursing continuing education credits for a period of one year beginning June 1, 2001. Accreditation will be renewed as necessary.

ACCREDITATION STATEMENTS

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the University of North Dakota (UND) School of Medicine and Health Sciences and Mountain Plains Regional AIDS Educational and Training Center (MPAETC) at the University of Colorado Health Sciences Center. The UND School of Medicine and Health Sciences is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The UND School of Medicine and Health Sciences designates this continuing medical education activity for a maximum of 4 hours in Category I credit of the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

This activity has been approved for 4 contact hours by the Continuing Nursing Education Network (CNE-NET), which is accredited as an

approver of continuing education in nursing by the ANCC Commission on Accreditation.

DISCLOSURE STATEMENT

ACCME policy requires that CME activity directors and faculty disclose significant financial relationships they may have with commercial entities and disclose any significant commercial support for this publication. The University of North Dakota School of Medicine and Health Sciences and the authors of this publication have indicated that they have no significant financial relationships with commercial entities to disclose.

APPLICATION INFORMATION

Eligible healthcare providers who wish to receive 4 credit hours in Category I of the AMA Physician's Recognition Award of the American Medical Association or 4 nursing contact hours should do the following:

- Study the module
- Print the post-test and evaluation materials from the PDF file
- **Complete the post-test and evaluation materials and return them to:**
Mountain Plains Regional AIDS Education and Training Center
UCHSC Box A-089
4200 East Ninth Avenue
Denver, CO 80262
Telephone: (303) 315-2516
Fax: (303) 315-2514

IMPORTANT NOTE:

- There is a \$15.00 processing fee for AMA PRA Category I credits. Physicians and physician assistants applying for CME must include a \$15.00 check payable to the



University of North Dakota School of Medicine and Health Sciences with the evaluation materials.

- There is no processing fee for nursing contact hours.

CONTINUING EDUCATION CRITERIA

TARGET AUDIENCE:

Physicians, Physician Assistants, Registered Nurses, Advanced Practice Nurses, Nurse Practitioners, Licenced Practical Nurses, other health care providers.

EDUCATIONAL CONTENT:

Information about the prevention, diagnosis, early intervention, and health promotion as related to HIV disease in Native American clients.

METHOD OF PARTICIPATION/EVALUATION METHODS:

Health care providers including all of those listed in the target audience can qualify for CME/CE credits by completing the self-study module, post test, and evaluation materials (as above).

LEARNING MEDIUM:

Self-study Module and Post-Test.

PASSING GRADE FOR POST-TEST TO QUALIFY FOR CE/CME:

70%

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DATE OF ORIGINAL RELEASE:

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ESTIMATED TIME TO COMPLETE:

4 hours

INTRODUCTION

As the human immunodeficiency (HIV) epidemic evolves, it is increasingly clear that there are no geographic or demographic barriers to the spread of HIV infection. Although prevalence remains considerably lower in the Native American population, increases in incidence are a clear signal of the need for an effective response. As this trend continues, health care providers working with Native clientele will be increasingly challenged to respond effectively to the epidemic.

All providers who work with Natives have an important responsibilities related to HIV. These include assessing client risk, identifying those at risk of infection, encouraging HIV testing when indicated, and counseling clients to reduce risk. Early identification and intervention for HIV is a critical response to the disease, especially because research shows important benefits from HIV treatment and from therapies that reduce perinatal HIV transmission.

Cultural sensitivity is a valuable asset for providers who work with Native communities. No single provider can be completely knowledgeable about the entire spectrum of American Indian and Alaska Native (AI/AN) cultures and behaviors; however, all providers can be cognizant of the wide diversity of Native cultures and of the need to respect these differences in provider-client encounters. Certain issues might arise more often among Native Americans than among other populations, and some of those will be addressed in this manual. The fundamental premise underlying this approach,

however, is to work toward helping individual clients achieve as high a level of health as possible within the context of their individual cultures.

SELF-STUDY MODULE

The Mountain-Plains Regional AIDS Education and Training Center (MPAETC) and the National Native American AIDS Prevention Center (NNAAPC) developed this Self-Study Module as one component of a larger training project to help health care providers respond to the HIV epidemic within the Native American population. The curriculum is designed to meet the needs of health care practitioners who may not have direct access to education and training centers or academic institutions, yet who recognize the need to develop knowledge, skills, and consultative support for HIV issues in professional practice.

The Self-Study Module is a self-directed learning tool comprised of four sections: Background to HIV and Cultural Issues among Native American Clients, HIV Prevention, Early Intervention, and Health Promotion. Advanced care is beyond the scope of this module, but resources are provided for further information.

HIV PREVENTION, EARLY INTERVENTION AND HEALTH PROMOTION

The first section, Background Information, offers a description of the pathophysiology of HIV, followed by an evaluation of salient cultural issues for working with Native American clients. The second section, HIV Prevention, introduces risk assessment, the sexual and drug use history, HIV antibody testing, pre-test counseling, and risk reduction counseling. The section on Early Intervention presents

post-test counseling, HIV-related history, physical exam, laboratory testing, and early signs and symptoms of HIV infection. The final section, Health Promotion, focuses on the critical importance of maximizing the health status of infected clients through antiretroviral therapy, the prophylaxis of opportunistic diseases, and the development of health maintenance and wellness strategies.

CASE STUDY SCENARIOS

Two case studies are offered as guides to address a variety of conditions and circumstances that might present to the provider working with Native American communities: Linda, an intravenous drug user, age 34 and Michael, a gay/two-spirited man, age 27. As composites, these cases reflect some of the primary features of the HIV epidemic in Indian Country.

Each section of the module is enhanced by these case studies. In practice, the content of the four sections of the manual overlap, and events will not necessarily proceed in the linear sequence presented. HIV is a dynamic disease involving many aspects of human behavior and, as such, should be approached by using professional knowledge and skills to provide individualized client care. To simplify the learning process, the case studies are used to illustrate some of the interactions between a single provider and a client. In reality, many of the responsibilities will be shared among physicians, mid-level practitioners, case managers, and nurses. Some care settings will also incorporate social workers, mental health specialists, dieticians and other health care professionals into the treatment process.

CLINICAL CHALLENGES

Recent advances in antiretroviral therapy (ART), including highly active combination therapies, laboratory techniques to assess viral loads and viral resistance, and evolving treatments for opportunistic diseases, provide effective tools for evaluating, treating, and monitoring HIV-infected clients. While dramatically affecting clinical care and quality of life for clients, these developments have also increased the complexity of clinical management. The appropriate role of various types of providers in clinical treatment is the subject of ongoing dialogue. Several studies show better outcomes when patients are treated by HIV-experienced clinicians, indicating an advantage for collaboration with or referral to HIV specialists (those who treat a sufficient number of HIV-infected clients to attain and maintain knowledge and skills).

These issues pose unique challenges for providers and clients who are removed from centers of HIV expertise and resources. It is strongly recommended that HIV-inexperienced providers establish networks of consultation and/or referral to HIV expertise for support in the clinical management of HIV, to allow clients to receive the highest possible quality of care.

KEEPING UP WITH NEW DEVELOPMENTS

Keeping up with new developments in this rapidly evolving field is challenging. The AIDS Education and Training Center (AETC) network is a valuable resource for meeting these needs. Professionals in AETC offices are available to identify resources, disseminate up-to-date literature, provide continuing education, and refer providers to HIV-care experts

for consultation. A list of the AIDS Education and Training Centers and the states they serve is included in the appendix, as are other national and regional HIV/AIDS resources.

The Mountain-Plains Regional AIDS Education and Training Center is pleased to make these updated resources more widely available to providers in and beyond our region. Additional information, particularly that pertaining to HIV care among Native Americans, is available from the National Native American AIDS Prevention Center (NNAAPC).

SECTION I BACKGROUND INFORMATION

Learning objectives.

By the completion of the Background Information section, the learner will be able to:

- Explain basic components of the biology of HIV infection
- Discuss various cultural issues for Native Americans in the HIV epidemic
- Discuss important aspects of Native American history -
- Identify some Native American values
- Identify cultural amplifiers that represent potential barriers to providing care to Native Americans

In the U.S. in 1994 (the last year for which these data were available), HIV infection was listed as the eighth leading cause of death overall, the sixth leading cause of death for youth aged 15-24, and the first leading cause of death among adults aged 25-44 (Singh, Kochanek, & MacDorman, 1996). Data from the National Center for Health Statistics (1992-1994) indicate that HIV/AIDS falls into the top ten causes of death among American Indians and Alaska Natives for children aged 10-14, and adults aged 25-44 (Indian Health Service [IHS], 1997). Since these statistics were compiled, new treatments have slowed the progression from HIV infection to AIDS, and from clinical diagnosis of AIDS until death. Consequently, both AIDS cases and AIDS deaths have declined dramatically in the last few years, and an increasing number of people with HIV infection are living longer and

healthier lives. However, these declines reflect little information about new HIV infections, or demographic shifts among populations currently most at risk. It is well known, however, that the epidemic is having a disproportionate impact on minority communities (Centers for Disease Control and Prevention [CDC], 2000b).

THE NATURAL HISTORY OF HIV INFECTION

HIV is a slowly progressive disease with a variable, although fairly predictable, pattern of evolution. The clinical manifestations depend on the stage of infection: for example, early infection has little immune dysfunction and few symptoms, while infection of longer duration causes moderate to severe immune impairment and increasing problems. Different manifestations present at different stages of disease.

When discussing disease progression with clients, it is important to focus on the positive advances in HIV care. Every client's course of illness varies, and there is no set schedule for morbidity and mortality. It is essential that the provider encourage and empower clients to assume control over their own care and lifestyle. This can greatly influence the quality of life with HIV.

TIME FROM HIV INFECTION UNTIL SEROCONVERSION

The time interval from initial HIV infection until seroconversion (detectable presence of HIV antibodies using commercially available ELISA and Western Blot assays), ranges from three weeks to three months. Although there have been a few reports of intervals longer than three months, it is generally agreed that one may counsel a person who has had a single potential HIV exposure that if s/he has not



seroconverted within six months, the exposure did not result in infection.

HIV COMMUNICABILITY

HIV antigen can be detected in the serum (antigenemia) prior to seroconversion. An infected person is thought to be contagious from the first occurrence of antigenemia through the rest of his/her life. The degree of infectivity will vary during the course of HIV infection. It is currently thought that there are two periods of higher infectivity:

- Immediately after infection (before the production of antibodies)
- During advanced stages of disease when CD4+T cell counts are low.

Newly infected people will not have detectable HIV antibodies during very early infection, even though there is a high level of virus in the blood. There may be no serologic evidence of infection for several months after exposure, but transmission can still occur through the established routes. Late in the disease process high levels of virus in the blood are once again associated with increased transmissibility.

TIME FROM INFECTION WITH HIV TO AIDS DIAGNOSIS

The incubation period of a communicable disease is defined as the time between contact with an infectious agent and the appearance of the first sign or symptom of disease. In HIV disease, the mean incubation period for AIDS is estimated to be 8 to 11 years. The lower limit of the range is several months and the upper limit of the range is still unknown. Improved treatment can lengthen the time from infection

HIV/AIDS Terminology

HIV (Human Immunodeficiency Virus)

HIV is the virus that causes HIV disease. Two serotypes are recognized, HIV-1 and HIV-2, with HIV-1 the predominant cause of HIV infection worldwide. HIV-1 appears to be somewhat more infectious and pathogenic than HIV-2. Their modes of transmission, however, are similar. In the United States, HIV generally refers to HIV-1 unless otherwise indicated.

HIV Infection

HIV infection includes the entire continuum from asymptomatic infection through symptomatic HIV disease, including AIDS.

HIV Disease

HIV disease is a broad diagnostic term that includes the pathology and clinical illness caused by HIV infection. HIV disease causes progressive deterioration, or weakening, of the human immune system over time, with a diagnosis of AIDS being made in later stages of that progression.

AIDS (Acquired Immunodeficiency Syndrome)

The current CDC case definition of AIDS includes a positive diagnosis of HIV infection AND a CD4+T count of <200 cells/mm³ OR an AIDS-defining condition. AIDS indicates a late stage of HIV infection with severe immune system deterioration.

to a diagnosis of AIDS.

It is important to note that HIV does not remain dormant or inactive during the incubation period. In fact, HIV progressively damages the immune system from the time of infection through the onset of symptoms until death. In addition, HIV can be transmitted to others from early in the infection until the end of life.

TIME FROM AIDS DIAGNOSIS TO DEATH

The average time from an AIDS diagnosis until death has gradually lengthened for several reasons: there is an increased chance of early diagnosis; antiretroviral therapy has become more widely available and effective;

and opportunistic diseases can be prevented, diagnosed, and treated more effectively. In addition, there is considerable variation among clients, and new developments such as combination antiretroviral therapy have made previous estimates inaccurate.

CLASSIFICATION SYSTEM

In the absence of treatment, HIV infection will usually progress slowly in a fairly predictable pattern. Clinical manifestations depend on the stage of infection, from early infection with little immune dysfunction, to advanced infection with moderate or severe immune impairment. Different manifestations present at different stages of disease. The 1993 AIDS surveillance case definition includes all HIV-infected people with less than 200 CD4+T cells/mm³, or a CD4+T cell proportion of total lymphocytes less than 14%. The expanded definition added pulmonary tuberculosis, recurrent bacterial pneumonia, and invasive cervical cancer to the list of AIDS-indicator conditions (see box).

PATHOPHYSIOLOGY OF HIV INFECTION

HIV is an RNA virus that was discovered in 1983. HIV is from a class of viruses called retroviruses because they replicate in a "backward" manner (creating a DNA template from which to replicate new RNA). Like all viruses, HIV is an obligate parasite: It cannot survive and replicate unless it is inside a living cell (see figure). HIV enters a cell when glycoprotein "knobs" on the viral envelope bind to specific (CD4) receptor sites on the cell's surface. Once bound, the virus enters the cell where viral RNA is transcribed into a single strand of viral DNA with the assistance of an enzyme called reverse transcriptase.

This strand replicates itself, becoming double stranded viral DNA.

At this point, viral DNA enters the cell's nucleus and splices itself into the genome with the assistance of the enzyme integrase. Viral DNA in the genome then directs viral replication in the cell. The initial step in viral replication produces a long strand of viral RNA that must be cut to

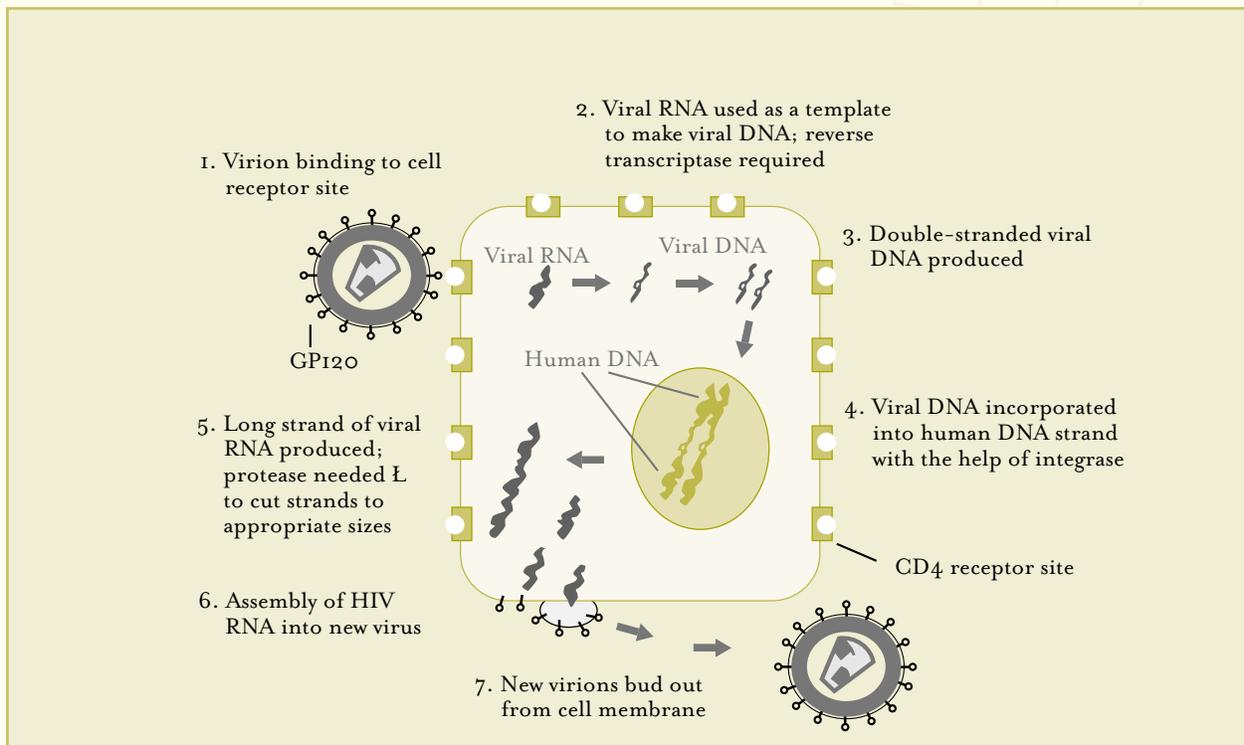
Conditions in the 1993 AIDS Surveillance Case Definition

- CD4+T-cell count of <200mm³ or <14%
- Candidiasis of bronchi, trachea, or lungs
- Candidiasis, esophageal
- Cervical cancer, invasive
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis, chronic intestinal (>1 month duration)
- Cytomegalovirus disease (other than liver, spleen, or nodes)
- Cytomegalovirus retinitis with loss of vision
- HIV encephalopathy
- Herpes simplex: chronic ulcers (>1 month duration); or bronchitis, pneumonitis, or esophagitis
- Histoplasmosis, disseminated or extrapulmonary
- Isosporiasis, chronic intestinal (>1 month duration)
- Kaposi's sarcoma
- Lymphoma, Burkitt's (or equivalent term)
- Lymphoma, immunoblastic (or equivalent term)
- Lymphoma, primary in brain (AIDS with negative HIV-antibody test if client < 60 years)
- Mycobacterium avium complex or *M. kansasii*, disseminated or extrapulmonary
- Mycobacterium tuberculosis, any site (pulmonary or extrapulmonary)
- Mycobacterium, other species or unidentified species disseminated or extrapulmonary
- Pneumocystis carinii pneumonia
- Pneumonia, recurrent
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia, recurrent
- Toxoplasmosis of brain
- Wasting syndrome due to HIV

appropriate lengths. An enzyme called protease is required for this cutting process. New virions then assimilate and bud out from the cell, taking a piece of the cell's membrane to form the new viral envelope. HIV replicates rapidly and the process is not always accurate. This leads to "mistakes" in the process, or mutations. Mutations have clinical significance when they cause resistance to HIV medication.

Although HIV can infect several types of human cells, immune dysfunction results predominantly from the destruction of helper T cells, called CD4+T lymphocytes (or CD4+T cells), which play a pivotal role in the human immune response. These cells recognize problems (such as cancer cells and invading infectious organisms) and then secrete the cytokines

(chemicals) that initiate the body's defense mechanisms. CD4+T cells are targeted by HIV because they have more CD4 receptor sites on their surfaces than other cells. HIV can kill CD4+T cells in a number of ways. Serious clinical disease occurs when so many CD4+T cells are destroyed that cancer cells and pathogenic organisms are not detected, leading to impaired coordination of the immune response. The number of CD4+T cells is the main determinant of risk for developing opportunistic disease. The risk is fairly low early in the course of HIV disease when the CD4+T cell count is near normal (800-1200 cells/mm³). As the disease progresses and the number of CD4+T cells fall, the risk of opportunistic disease increases.



HIV is a dynamic disease, with 10^{10} virions produced daily. Immediately after infection, the virus spreads rapidly, producing a high burden in peripheral blood during the first few weeks of infection. Initial infection is associated with a significant drop in CD4+T cells and a high viral load. (Viral load or viral burden refers to a quantitative measure of HIV viral RNA in the peripheral circulation, or the level of virus in the blood.) An immune response is triggered by the high rate of viral activity and CD4+T cell death, leading to rapid CD4+T cell replacement and HIV-specific antibody production. The viral burden drops as the immune response is established. During antibody production (seroconversion), infected people may experience fever, headache, diffuse lymphadenopathy, muscle and joint pain, diarrhea, sore throat, meningitis, encephalitis, and/or rash. This mononucleosis-like illness usually occurs 2–12 weeks after exposure and symptoms can last two to three weeks or longer. This initial illness is called acute retroviral syndrome, seroconversion illness, or primary HIV infection. Many patients diagnosed with HIV do not recall such an illness, and it is unclear how many actually have unrecognized seroconversion illness.

CULTURAL COMPETENCY WITH NATIVE AMERICAN PATIENTS

Native Americans make up one percent of the United States population, with an estimated total of 2.3 million individuals. This population includes over 550 federally recognized tribes and maintains over 150 distinct languages. Some tribes have thousands of people who speak the language while others have only

a few. In order to provide culturally sensitive services to Native American patients, it is imperative that clinicians have a general knowledge and understanding of the Native American history that impacts the health and well-being of present day Native Americans, some of the values shared among many Native Americans, and potential barriers for health care providers when serving Native Americans.

HISTORY

This self-study guide focuses on critical facts in Native American history that have contributed significantly to Native American culture today. Health care providers who serve Native Americans should become familiar with this history and, if possible, learn the specific history of the tribe(s) they serve. The information in this guide is a general overview and cannot be generalized to all Native Americans.

Native American tribes have histories that began long before European arrival in 1492. Prior to 1492, thousands of Native American tribes resided in different regions of the Americas; each had a rich and distinct history, language, social structure, belief system, set of values, and way of life. Among other things, Europeans brought new diseases to many tribal communities, affecting each group differently. Some tribes became extinct while others survived and have continued to thrive.

Boarding Schools. In 1886, a U.S. government commission ordered the formation of a boarding school system, under the auspices of the Bureau of Indian Affairs (BIA). Many Christian boarding schools for Native Americans also

developed around this time. These schools were organized to train Native American children and, in the process, to replace their dialects with the English language (Atkins, 1887). In these schools, students were disciplined for speaking Native languages and were taught to reject their cultures, including their beliefs, languages, songs, dress, and way of life (Adams, 1995; Child, 1998; Duran, et al., 1995). This school policy significantly contributed to the endangered state of many Native American languages and cultures today.

Sadly, as a consequence of boarding school experiences, many children suffered lifelong emotional problems that affected the health and well-being of subsequent generations. Many boarding school children suffered the traumas of forceful removal from their homes, poor treatment while in school, and shame for being Native American. As a result, many Native Americans adopted Western culture's ways and belief systems. Moreover, as adults, many of these boarding school children had not developed parenting skills because they had been removed from healthy Native parental role models during their formative years. Needless to say, the aftermath of boarding schools continues to affect Native Americans today. Some BIA boarding schools still exist, but now focus on preserving Native American culture rather than destroying it.

Living Situations. About 40% of the Native American population live in rural settings or on or near reservations, rancherias, or pueblos (reservations); the remaining 60% reside in urban areas. Reservation lands were reserved

for a tribe when it relinquished other land rights to the United States Government through treaties. Tribes were often forced to reside on reservations that were geographically distant from the ancestral lands they had occupied for centuries. Reservations are also usually located in isolated areas, contributing to high incidences of poverty, unemployment, welfare dependency, and related morbidities, including obesity, diabetes, alcoholism, chemical dependency, and family violence, among others.

The urban relocation program was yet another federal program that affected Native Americans. Many present-day urban Native Americans are, or are the children of, Native Americans who were relocated to major cities in the United States from the 1950s through the 1970s. This policy persuaded Native Americans to leave their reservations with the promise of housing and job opportunities in urban areas. Many Native people eventually found themselves without financial means to sustain themselves or to return home. Those who remained were faced not only with the problems they experienced on the reservation but also with the added factor of discrimination. Despite hardships, many Native people were able to establish themselves to some degree and are now part of urban Native American communities.

Federal recognition. Federally recognized tribes are sovereign nations and possess formal government-to-government relationships with the United States. This legal status was established variously through treaties, Acts of Congress, executive orders, and other administrative actions. As a consequence of this status,



decisions about federally recognized tribal lands and people generally involve the review and consent of the tribes.

Not all tribes meet the criteria for federal recognition, however; these exceptions do not possess the same sovereign status, but may have formal recognition in their states. Still other tribes have neither federal nor state status, either as a consequence of not meeting criteria or of a choice not to seek such recognition. Native American people from tribes that do not have federal or state recognition are nonetheless “Native American.” The term Native American came into use in the 1960s to denote groups served by the BIA and includes American Indians and Alaska Natives (AI/AN). There is no single federal or tribal criterion to identify a person as Native American. Government agencies and tribes have differing criteria to determine who is eligible to receive services. Some tribal-specific enrollment requirements dictate eligibility based on a minimum blood quantum, a maternal or paternal lineage, or birth on the tribe’s reservation. A Native American may or may not be enrolled with his or her tribe. This occurs for any number of reasons, including family history, lineage, low blood quantum, adoption, or simply the choice not to be enrolled.

HEALTH HISTORY AND CURRENT TRENDS

The Native American population is younger than that of the general U.S. population and simultaneously has lower life expectancies. This trend is the result of higher morbidity and mortality rates associated with a wide variety of diseases, injuries, and other health problems. Data from the mid-1990s indicate that Native

populations residing in the vicinity of Indian Health Service (IHS) facilities had notably higher rates of death than those in other U.S. population groups. These differences were quite pronounced for causes associated with injury, poisoning, accident, suicide, homicide, firearms, alcoholism, chronic liver disease and cirrhosis, tuberculosis, and diabetes mellitus. Conversely, Native populations exhibit significantly lower death rates associated with malignant neoplasm and HIV. Native American mortality rates associated with gastrointestinal, heart, and cerebrovascular causes are comparable to general U.S. populations (IHS, 1997).

Recent data demonstrate a shift in causes of death among Native Americans toward more chronic conditions typical of the general population. This shift could be interpreted as a positive change, although considerable care must be exercised before accepting such a conclusion. The service population described by these data include AI/AN who reside “on and near” reservations. The data do not include urban Native populations, nor do they account for whether or not those individuals actually use IHS services. Furthermore, summary presentation of information can mask local variation; while the general trend shows improvement in health status, local manifestations of these changes may not describe parallel shifts. In fact, many communities continue to suffer the high morbidity and mortality rates of earlier periods. Providers must be aware of underlying morbidity and mortality trends in the community, how these affect perceptions and expectations, and how they might impact a service delivery system.

NATIVE AMERICAN VALUES

Health care providers should also be aware of common Native American values that differ from Western culture values. Again, not all Native Americans will exhibit these values, but it is important to keep them in mind when serving Native American patients.

Holistic approach to health. Many Native Americans believe in a holistic approach to health. Health is synonymous to the harmony of body and soul with nature. Illness implies an imbalance within the individual and between the individual and the universe. Many Native Americans also believe that an imbalance can occur through “bad medicine” or a spell from someone who may want to cause harm. Because of this, the whole individual and not merely one physical segment of the body must be treated. Better results can be obtained for a Native patient if physical, emotional, mental, and spiritual needs are addressed in the care and treatment plan.

Traditional healing. Each Native American tribe has distinct ceremonies and medicines, although overlaps exist in certain regions. Native American patients who access traditional medicine and ceremonies report physical relief as well as an overall increase in the sense of well-being. For many Native Americans, the practice of familiar methods of healing can contribute to a sense of empowerment. An individual living on a reservation would have better access to traditional medicines and ceremonies than an individual living off the reservation. Due to this distinction, an individual living in an urban area may return home for

traditional medicine and ceremonies. In some settings, access to traditional healing services can be obtained in urban contexts.

Family and social role. The importance of the extended family is crucial in understanding the relationship of an individual to family and community. Aunts are often considered as mothers, uncles are often considered as fathers, and cousins are often considered as brothers and sisters. Members of the same clan, or even related clans, may be considered as relatives. In this social structure, some Native children are raised by extended family without a formal adoption process. The community, urban and reservation, is a valuable resource for a Native person in need. An individual may turn to the community for financial, emotional, or spiritual support. That individual is committed in the same way to others in the community.

NATIVE AMERICAN CULTURAL AMPLIFIERS

Health care providers should be aware of cultural amplifiers when working with Native American patients. A cultural amplifier is a cultural factor that magnifies potential difficulties faced by Native Americans living with HIV. Cultural amplifiers are of critical importance because they may create barriers to a Native American patient’s adherence to a care and treatment plan, to the confidence and trust level in the provider–patient relationship, and consequently, to how the provider and patient communicate.

Circular migration. Depending on distance, Native Americans may migrate daily, weekly, or several times a year from reservation/ rural areas

to urban areas. Migrations occur for many reasons, including family visits, tribal ceremonies, job and educational opportunities, substance use, or illness. An individual may travel a long distance to an urban area to work or to obtain an education since the opportunities are more limited in reservation/rural communities. A substance user may travel to an urban area to access alcohol or drugs. Some reservations are “dry”, meaning that alcohol is prohibited from being sold or used on the reservation. A substance user may also be required to leave a reservation/rural area to enter a drug or alcohol treatment program located in an urban area. An ill individual living in an urban area may return home to receive care from family or community members, and simultaneously, have access to more traditional healing methods. Conversely, an individual may travel or relocate from a reservation/rural area to an urban area to receive more comprehensive health care services. The circular migration of Native American people also means that disease can be easily carried from urban areas to reservations, with a tremendous potential to achieve epidemic proportions on reservations.

Fear of breach of confidentiality. Breaches of confidentiality are a serious issue in many Native American clinics. This transgression often occurs in reservation or rural communities where rumors can spread quickly, although comparable breaches also occur in urban clinics. In Native American communities, it is not uncommon for a patient to have relatives, friends, or acquaintances who are employed at the Native American clinic. These individuals, therefore, may have access to confidential

information about a patient. Any breach of confidentiality by a clinic employee, or anyone else, can lead to shame and isolation from the community especially when the information is about a socially stigmatized problem such as HIV. In 1991, a national study found that individuals were concerned “over the inability of the Indian Health Service to protect the confidentiality rights of patients, evidence of breaches of confidentiality, and the lack of anonymous test sites” (National Commission on AIDS, 1992).

Distrust of authority. Native Americans have a long history of mistrust of the government as a result of broken treaties, lost land, reservations, boarding schools, and the urban relocation program, as described above, as well as ongoing experiences with racial and ethnic discrimination. This mistrust extends to public health officials, as a result of specific tribal histories of poor health care and deliberate infection. Most Native Americans are familiar with the government’s “gift” to many tribes of blankets that were infected with smallpox. This history is well known throughout the Native communities, and often translates into a level of mistrust of health care providers in contemporary settings.

Communication style. Some Native Americans exhibit a style of communication that is reserved and may be interpreted as unfriendly. When addressed, a Native American person may look away or down as a sign of respect. In some tribes direct eye contact is considered disrespectful. Many Native Americans speak in a slow and deliberate manner that is often interpreted as

uneducated or ignorant. For some individuals, English is a second language and/or their way of speaking was learned from family and community members. Many Native people also exercise caution in personal communication with others. Information or problems about oneself and one's family is not voluntarily shared. Contributing factors to the non-disclosure of information are the inherent distrust of authority and the fear of breach of confidentiality as noted above. Native people are usually careful listeners and perceptive observers of nonverbal communication, such as facial expressions, gestures, or verbal tones. A Native American patient not volunteering information should not be interpreted as an indication that there is nothing wrong. A patient is more likely to share information if trust is developed between the provider and the patient.

Relationship of language and culture. Cultural elements are contained within the context of a Native American language. Many words and concepts are not easily translated into English and some cannot be translated. The language of each tribe describes and identifies its speakers. Every Native American language contains the key to that tribe's view of the universe. When the BIA attacked Native languages in the boarding schools, it attacked the tribal culture. Today, Native Americans strive to preserve and restore their respective tribal languages and culture. Because of their history, Native Americans may not be willing to share their cultures with people outside of the tribe.

Modesty. Most Native Americans are modest

and find it uncomfortable to discuss their bodies or perform self-examinations. Consequently, an individual may not notice or wish to discuss personal bodily changes. This same modesty usually extends to discussing sex and sexual behaviors (especially homosexuality), and may even present great discomfort. Health care providers should learn how to discuss the body, sex, and sexuality in a culturally sensitive way.

Sexuality. There is a misconception that all Native American tribes have a history of acceptance of alternative gender roles and sexualities, and that these roles and traditions continue today. This is not entirely true. European arrival brought Christianity, which influenced the social systems and beliefs that alternative gender roles and sexualities were not an anomaly (Williams,

Case Study: Linda



A 34-year-old woman named Linda comes into the urban Indian clinic. You review her chart and note that she has not been into the clinic for almost two years.

Her chart indicates that she began receiving services at this clinic over six years ago. Linda tells you that she was recently released from a 30-day chemical dependency treatment facility.

Linda has a 10 year-old son who was living with her until two years ago. He was nearly placed in foster care when Linda began using alcohol heavily. At that time, a social worker contacted Linda's mother and asked if she could care for her grandson. Linda's mother agreed to care for him. Linda has not regained custody of her son, and he continues to live with his grandmother on their reservation up north.



1992). Importantly, in some tribes, there is no historical record that these alternative gender roles and sexualities ever existed, which again, may have been destroyed with European arrival.

While some Native Americans may know of alternative gender roles and sexualities within their tribes, they may not embrace these roles as acceptable. Native American people and communities are just as likely to exhibit the same type of homophobia prevalent in mainstream society. Some gay, lesbian, bisexual, and transgendered Native Americans identify as two spirit. “Two spirit” is a fairly new term that originated from the organizing efforts of gay, lesbian, bisexual, and transgendered Native Americans to distinguish themselves from mainstream gay and lesbian culture. The term two spirit attempts to reclaim and honor the historical roles and traditions of individuals within many tribes that were at one time inclusive of multiple gender roles and sexualities (Jacobs, et al., 1997).

Orientation to present. Many Native Americans are more oriented to living in the present than the future which is often emphasized in Western culture. Since the future is vague and ambiguous, it is not unusual for the focus to be on immediate gratification. Many Native American tribes emphasize living each day as it comes. This perspective could influence how Native patients adhere to pharmacotherapies, for example, when they are feeling well or poorly on any given day. Health care providers need to explain and emphasize how HIV progresses in the body and how antiretroviral therapies work over time.

Mortality. High rates of mortality are a part of most family and community experiences for Native Americans. According to the IHS 1997 annual report on mortality rates, Native Americans consistently have higher than national average death rates due to automobile accidents, liver disease, homicide, suicide, and diabetes. It is not unusual for an individual to have someone in his or her family or community commit suicide, be a victim of a homicide, or die in an automobile accident. Not infrequently, a community may experience several deaths over a

Case Study: Michael



A 27-year-old man named Michael presents himself to the tribal clinic on his reservation.

In reviewing his chart, you recall that you saw him intermittently at the clinic for minor complaints up until ten years ago. He shares with you that he is originally from this reservation but that he has been living in a nearby city.

He tells you that he left “the rez” when he was 17-years-old and just moved back a couple of weeks ago. In the past 10 years, he had been home only to visit his family and for ceremonies. Michael’s decision to move back was prompted by his father’s deteriorating health.

Michael’s parents are both diabetic, and his father recently had a below the knee amputation. His father’s care is difficult, and Michael has returned home to help his mother.

You are the primary care provider for most of his family and relatives. They have known you for several years, and you have developed their trust and confidence. You recall that last year Michael’s eldest brother died in an alcohol-related car accident.

short period of time. This experience may impact an HIV-infected Native American, possibly altering his or her own desire to extend life by means of HIV/AIDS drug therapies.

Study Questions, Part I

Determine whether each statement is true or false:

1. *The human immunodeficiency virus (HIV) has been determined to be the cause of acquired immunodeficiency syndrome (AIDS).*
2. *All HIV-infected people have AIDS.*
3. *HIV is a virus consisting of viral DNA and a protein envelope.*
4. *HIV affects the human immune system predominantly by destroying CD4+T lymphocytes.*
5. *An HIV-infected person will not be able to transmit HIV to others until 3-6 months after the initial infection is established.*
6. *All American Indian/Native Alaskan peoples share similar histories, cultures, and healthcare practices.*
7. *Death rates associated with accident, chronic liver disease, and diabetes are higher in Native populations than in other U.S. population groups.*
8. *In most cases, healthcare for Native clients is best approached through a combined physical, emotional, social, and spiritual perspective.*
9. *Most Native Americans live their entire lives on tribal lands and reservations.*
10. *Native American cultures can be easily understood if the clinician will take the time to learn the local Native language.*

Answers and discussion can be found in the Resource section.



SECTION II HIV PREVENTION

Learning objectives.

By the completion of the HIV Prevention section, the learner will be able to:

- Assess risk factors for HIV infection
- Identify elements of HIV test–decision counseling -
- Discuss appropriate/relevant measures to reduce the risk of HIV infection
- Describe the continuum of risk for practices associated with HIV transmission



Linda has come in today complaining of pain during urination and abdominal pain. When asked if she has any other symptoms, Linda says, “No.” You have Linda provide a urine sample for analysis.

The urinalysis shows a urinary tract infection, and you prescribe antibiotics for the infection. You get the sense that Linda wants to say something more so you ask if she has any other health concerns. She begins to respond, then pauses.

You reassure her that it is safe for her to share her concerns with you. She tells you that she wants to know how HIV is transmitted. She then shares that she has been approached by outreach workers trying to give her information about HIV but that she usually throws it away.

You realize that you have never asked Linda about her risk for HIV infection. Why are HIV risk assessments often omitted by health care providers?

There are a number of possible reasons why clinicians do not perform HIV risk assessments with their clients:

- They may not be aware of the shifting demographics of HIV infection, such as increases in HIV infection rates among women, adolescents, and in rural areas.
- They may not expect, nor feel prepared, to address HIV infection in their practices.
- They may be influenced by social stigmas or cultural barriers associated with discussing sexual or drug-use issues, and know that these are very sensitive topics in most Native cultures.
- They may choose to omit discussing these difficult topics when time constraints exist.
- They may have personal prejudices, fears or discomfort in talking about sexuality with clients, especially the elderly, disabled, homosexuals, individuals engaged in extramarital or premarital sex, or those from cultures where sex is a taboo topic.
- Some health care providers were not adequately trained to take a comprehensive sexual or drug use history.

HIV risks are not spread evenly among the population. For primary care practitioners, the main goal should be to assess clients at high risk and to focus prevention efforts on them. Individualized risk assessment and counseling is a hallmark of good prevention practice.
(Stryker et al., 1995)



WHEN SHOULD AN HIV RISK ASSESSMENT BE CONDUCTED?

Clinicians have a responsibility to assess each client's risk for HIV infection. This provides an opportunity for client education and prevention counseling. It also elicits important information for making decisions related to risk reduction counseling and subsequent health care, including testing, diagnosis, and early intervention. Not every client will need additional evaluation and counseling regarding HIV, but the risk assessment serves as an essential screening mechanism for identifying client risk behaviors that can lead to the exposure to HIV. The ability to identify HIV infection is enhanced with effective risk assessment by every provider during the initial examination of every client.

The risk assessment interview should include questions *about sexual behavior, drug use behavior, and contact with blood and body fluids*. To be effective, risk assessment interviews should be:

- Sensitive to issues of sexual identity and practices
- Consistent with the age and learning skills of the client
- Provided in a style or form that is sensitive to the cultural values, norms, and traditions of the client
- Delivered in a manner that is consistent with the client's language and style of communication

The interviewer is responsible for conducting assessments in a manner that recognizes each client as an individual with unique strengths, weaknesses, preferences, and characteristics.

The CDC offers excellent advice for conducting - client-centered risk assessments (CDC, 2000a). -

Case Study: Michael



Michael comes in today complaining of “white stuff” in his mouth. He tells you that he has had this problem for about a month, but thought it was because he was smoking over a pack of cigarettes a day. He gave up smoking before he returned to the reservation believing that his mouth would get better, but he still has the lesions. You look in Michael's mouth and see lesions that appear to be oral candidiasis or thrush. You take Michael's temperature. He is running a low fever.

Michael tells you that his primary care provider is in the city. He tells you that he has not seen his primary care provider in over a year.

You get the impression that Michael is uncomfortable about this visit and that his health concerns go beyond his present complaints. You are also concerned that a man his age would have oral candida.

Clinicians should view all clinical encounters with clients as opportunities to assess HIV infection risk, and subsequently to provide and reinforce prevention messages. Client risk for HIV infection should be reassessed periodically through updated sexual and drug use histories. As provider-client rapport increases, there may be an increased willingness to talk about sensitive subjects. Be aware of client concerns regarding privacy, especially in smaller communities or clinics. Providers should identify their own areas of discomfort in order to present an accepting attitude to the client while asking questions, being mind-



ful of body language, voice inflections, and reactions to client responses.

HOW IS HIV TRANSMITTED?

Worldwide epidemiologic studies have consistently documented three major means of HIV transmission:

- Unprotected anal and vaginal intercourse
- Injecting drugs with contaminated needles and/or equipment ("works")
- Perinatal transmission from infected - mother to infant -

The body fluids that have been shown to be infectious are:

- Blood
- Semen
- Vaginal secretions
- Breast milk

The risk of transmission by direct contact with fluids other than blood, semen, vaginal fluids, and breast milk is extremely unlikely. HIV has been isolated from a number of body fluids including, but not limited to, urine, tears, saliva, and feces. Viral titers in these fluids are so low as to be considered incapable of transmitting HIV. However, visible blood in any body fluid increases the risk of transmission.

HIV is not transmitted by casual contact (shaking hands, hugging, etc.), coughing, sneezing, dry kissing, sharing food or utensils, sharing office or classroom space, by donating blood, by mosquito or other insect bites, or by animal bites.

What are the relative risks of HIV infection through the three most common types of exposure: sexual, injection drug use, and perinatal?

SEXUAL EXPOSURE

HIV is primarily a sexually transmitted disease. Although patterns of transmission vary in different areas of the world, a majority of the global cases of AIDS have occurred as a result of heterosexual transmission of HIV. Unprotected anal intercourse between men remains a common mode of HIV transmission. Current data for American Indians and Alaska Natives indicate that 56% of AIDS cases and 52% of HIV cases are within the men having sex with men (MSM) exposure category. Despite this, the overall rate of increase is generally slowing among MSM, although some areas are experiencing reverses in this trend. The rate of increase is accelerating among other population groups, particularly women, injection drug users (IDUs), adolescents, and minorities (CDC, 2000b).

The incidence of HIV has increased more in women than men in recent years, largely because of increases in women infected through heterosexual contact (Wortley & Fleming, 1997). Women can be vulnerable to HIV infection because of high-risk behaviors of their partners, financial dependence on men (which may put them at a disadvantage in negotiating safer sex practices), and circumstances such as poverty, violence, substance use, and unemployment. Data for American Indian and Alaska Native women are consistent with these patterns. AIDS case data reveal that women

account for 18% of all Native cases. However, recent HIV data demonstrate an increasing representation of Native women in the epidemic; they now constitute 27% of documented HIV infection among American Indian and Alaska Native populations (CDC, 2000b). Numerous epidemiologic studies have found unprotected receptive anal intercourse to be the sexual activity with the greatest risk of HIV transmission for women as well as men. Available data suggest that female-to-male transmission is less efficient than male-to-female transmission. Oral-genital transmissions have been reported, but are less common. Recent studies, however, have shown that the risk of transmission from oral sex, while low, is higher than previously thought (Robinson & Evans, 1999).

The risk of transmission among couples having unprotected vaginal or anal intercourse varies. Some individuals become infected with HIV after a single unprotected sexual encounter while others remain free from infection after hundreds of such encounters. This suggests that HIV transmission most likely depends on multiple biologic factors involving the infected person, the virus, and the exposed person. Research indicates that the following factors may increase sexual transmission of HIV:

- High levels of HIV in the plasma
- Presence of genital lesions due to syphilis, herpes, chancroid, and other sexually transmitted diseases (STDs)
- Intact foreskin
- High levels of virus in semen
- Viral shedding in cervical and vaginal secretions -

INJECTION DRUG USE

Transmission through injection drug use occurs when an individual is exposed to HIV-contaminated drug injection equipment. It is related most often to sharing equipment for intravenous drug injection, but intramuscular or subcutaneous injection of drugs such as anabolic steroids, vitamins, insulin, or illicit substances is a potential source of transmission if equipment is contaminated.

Cross-infection through needle sharing occurs as a result of exposure to HIV-infected blood from a previous user of the injection equipment. The risk of HIV exposure through injection drug use increases when:

- Injection equipment is shared with an HIV-infected person
- The number of injections with shared equipment is high
- HIV seroprevalence rates in the community are high

Within the American Indian and Alaska Native population, injection drug use transmission exhibits dramatic differences between males and females. Among males, injection drug use exposure accounts for about 22% of AIDS cases and 14% of HIV cases. Injection drug use among women represents approximately 41% of AIDS cases and 20% of HIV. Women like Linda are becoming more common in the Native American HIV/AIDS epidemic (CDC, 2000b).

PERINATAL EXPOSURE

In the absence of antiretroviral therapy, the rate of mother-to-infant transmission of HIV

ranges from 13–50% worldwide, with 20–30% being most commonly reported in the U.S. Transmission from mother to infant has been shown to occur in utero, during delivery, or after delivery via breast feeding. The risk factors for perinatal transmission are not fully understood, but data suggest that 50–80% of perinatal HIV transmissions occur late in utero or during labor and delivery (Fowler, Simonds, & Roongpisuthipong, 2000).

A number of factors may play a role in the risk of vertical transmission:

- Stage of maternal disease, with transmission more likely in the initial and later stages of infection when more virus is circulating in the mother's blood and body fluids. Indicators in HIV-infected pregnant women that may predict an increased risk of vertical transmission include:
 - Low absolute CD4+T cell count
 - Presence of maternal serum p24 antigen
 - Primary (new) HIV infection during pregnancy
 - High viral load, especially in the third trimester and at the time of delivery
- Characteristics of the viral strain
- Presence or absence of other STDs
- Breaks in the placental barrier associated with STDs and chorioamnionitis
- Nutritional status of the mother
- Maternal drug or alcohol use
- Factors associated with delivery. Elevated risk of transmission has been shown to be associated with:
 - Extreme prematurity
 - Complicated pregnancies that lead to

- extended labor
- Newborn ingestion of maternal blood, amniotic fluid, or vaginal secretions
- Skin excoriation in the newborn
- Duration of labor
- Being the first born of a multiple gestation
- Prolonged ruptured membranes (greater than 4 hours) -
- Invasive procedures, including scalp electrodes for fetal monitoring
- Duration of time spent in the birth canal
- Under certain conditions, elective - Caesarean section is associated with - reduced vertical transmission -
- Breast feeding

An important study, AIDS Clinical Trials Group (ACTG) 076, showed that zidovudine (AZT, ZDV, Retrovir®) therapy for the mother and the baby after birth substantially reduced the risk of perinatal HIV transmission. The long-term effects of this treatment for mother and child are being evaluated through follow-up studies. Current reports indicate that there have been no clear long-term effects of the drug to date. Further research has shown that antiretroviral therapy (ART) appropriate to maternal need during pregnancy, intravenous ZDV during labor and delivery, six weeks of ZDV therapy for the newborn, or a single dose of nevirapine during labor and delivery can significantly reduce the rate of perinatal HIV transmission. Combination therapies that include AZT are the standard of care for HIV-infected pregnant women (CDC, 2001a).

Currently, the CDC recommends that all pregnant women be assessed for risk of HIV and

offered antibody testing; that those found to be infected be offered appropriate ART; and that the newborn receive follow-up treatment and evaluation. Special emphasis is suggested for testing women at delivery if they have not received prenatal testing and chemoprophylaxis. The guidelines also call for the simplification of the testing process and the use of more diverse types of informed consent (CDC, 2001a). There are no legal requirements that a woman choose to take zidovudine nor, in most states, that she be tested.

Treatment options vary and there are positive as well as potentially negative consequences of ART during pregnancy. Because of this, decisions about therapy should be made by the woman with the careful assistance of her clinician and after full disclosure of the available data. Consultation with HIV-experienced clinicians is strongly recommended when working with HIV-infected pregnant women and referral is frequently appropriate.

What are the relative risks of HIV infection after blood exposure in occupational, household, or therapeutic situations?

OCCUPATIONAL EXPOSURE

The average risk for HIV infection from all types of reported percutaneous exposures to HIV-infected blood is approximately 0.3%. In comparison, the risk of Hepatitis B virus (HBV) transmission following an HBV-contaminated needle stick exposure ranges from 3-30%, depending on surface antigen markers. In a case-control study reported by the CDC, risk of HIV transmission was

increased in needle-stick exposures involving larger quantities of blood, associated with:

- A deep sharp injury with injection of blood -
- Visible blood in the device causing the injury -
- A device previously placed directly in the source-client's vein or artery (e.g., a needle used for phlebotomy).

The risk to a health care worker after mucous membrane exposure to blood is about 0.09%. Episodes of HIV transmission after skin exposure have been reported, although actual risk has not been calculated since no healthcare worker enrolled in a prospective study has seroconverted after an isolated skin exposure. The risk is estimated to be less than for mucous membrane exposures. Risk probably depends on blood volume and viral levels in the blood, and is reportedly higher for skin contact that is prolonged, extensive in area, or with compromised surface integrity and/or higher viral titer (CDC, 1998a).

The prevention of blood exposure in clinical settings is the best means of preventing occupationally acquired HIV infection. Occupational Safety and Health Administration (OSHA) policies require employee protection from exposure to infectious fluids in the work setting. Standard precautions (including Body Substance Isolation) and safety devices decrease the risk of direct contact with blood and body fluids, thereby decreasing the risk of infection with all blood-borne pathogens. Should a significant occupational exposure occur,



however, appropriate management is critical. Occupational exposure is an area of concern for health care providers, and appropriate post-exposure management is an important element of workplace safety. Written protocols should be made available for the prompt reporting, evaluation, counseling, treatment, and follow-up of occupational exposures that may place health care workers at risk for acquiring any blood borne infection, including HIV.

Post-exposure prophylaxis (PEP) recommendations are based on the results of a case-control study that showed that zidovudine (ZDV) prophylaxis reduced the risk for HIV transmission after occupational exposure by approximately 81%. The CDC recommends PEP based on the nature of the exposure. Most occupational exposures do not result in infection and there are a number of important considerations involved in decisions regarding PEP, including the amount of blood or body tissue involved in the exposure, the nature of the exposure, the infectivity of the exposure source, and side effects of drugs in the prophylactic regimen. The availability of treatment makes the reporting of all blood exposures extremely critical, especially since PEP is likely to be most effective if implemented as soon as possible (i.e., within hours, rather than days). Occupational exposures should be considered urgent (CDC, 1998a). Since CDC guidelines for PEP are updated on a regular basis, it is wise to consult HIV-expert clinicians when dealing with an occupational exposure to HIV infection.

The National Clinician's Post-Exposure Hotline is an excellent resource for informa-

tion about intervention for occupational exposure. It is available at (888)448-4911. Complete copies of the most up-to-date recommendations and guidelines can be obtained from the CDC National Prevention Information Network at (800)458-5231 or from the HIV/AIDS Treatment information Service at <http://www.cdcnpin.org>.

There have been no documented cases of HIV infection through casual contact in any setting.

HOUSEHOLD EXPOSURE

Although contact with blood and other body substances can occur in households, transmission of HIV is rare in this setting. In 17 studies involving over 1100 persons who lived in the same households with HIV-infected persons, none became infected as the result of typical, non-sexual household contact. However, as of December 1993, the CDC had documented eight household transmissions that did not involve sexual contact, injection drug use, or breast feeding. Five were associated with blood contact, two involved nursing care of terminally ill persons with AIDS where blood contact might have occurred but was not documented (in both reports, skin contact with other secretions and excretions occurred), and the exact route of transmission in a boy whose younger brother died of AIDS could not be documented (CDC, 1994).

THERAPEUTIC SETTINGS

Prior to 1985, exposure related to receiving contaminated blood or tissue was most common among people with hemophilia (who

had received multiple transfusions of blood products), followed by those who had had blood transfusions and those who were tissue recipients. Advances in blood testing technology and improved donor screening have greatly reduced HIV transmission risk through transfusion of blood or blood products. All blood collected in the U.S. is now screened for six infectious agents: HIV-1, HIV-2, HTLV-1, hepatitis B virus, hepatitis C virus, and syphilis. All potential donors are interviewed prior to testing and are advised not to donate if they are at risk for HIV. All units of donated blood that test positive for HIV are discarded, and future donations are not accepted from those donors. With proper screening, the risk of contracting HIV from a blood transfusion has dropped to an estimated risk of one in 400,000. Infection may still occur if an infected person donates blood during the "window period" (the time between HIV infection and the production of sufficient antibodies to be detected by HIV testing).

What are the effective methods for obtaining an HIV risk assessment?

Case Study: Linda



You realize that Linda is at risk of a number of sexual and blood borne diseases because of her history of drug use. You tell Linda that you would like to do a risk assessment with her since she has raised the issue of HIV infection.

You explain that this will provide you with the information you need to advise further care. She doesn't look at you, but nods her head.

Case Study: Michael



Now that Michael has returned to the reservation you will likely be assigned as his primary care provider. You advise Michael of this and tell him that you would like to update his chart with a risk assessment if he's agreeable. Since his chart has only minimal information this would be helpful to you. Michael agrees.

The sexual and substance use history is an effective strategy for assessing client risk for HIV infection. In identifying risk behaviors related to HIV transmission, this process also reveals information related to all sexually transmitted diseases, substance use and other issues that are useful in the broader context of general clinical evaluation. Thorough sexual and drug use histories require that the provider discuss the details of behaviors relating to sexual activity and drug use in a forthright, relaxed, and non-judgmental manner, and to ask explicit questions. Many providers begin by explaining why these questions are important and assuring confidentiality. For example, "I am going to ask some personal questions that I ask all of my clients. I believe they will help me provide you with the best care possible. I assure you that the information we discuss will be kept confidential." Clients should be given permission to not answer, or to have questions rephrased. Clients are often reluctant to disclose information about high-risk behaviors. The quality of information obtained depends on the rapport established with the client. For both sexual and drug use histories, open-ended questions should be used whenever possible, such as, "When was the last time you . . . ?" or, "How



often do you . . . ?" Also, it is very important to avoid using questions that imply judgment: "You've never . . . have you?" The provider may need to clarify client responses: "Tell me what . . . means to you."

GUIDELINES FOR CONDUCTING A SEXUAL HISTORY

Refer to behaviors when taking a history, rather than labels such as gay, homosexual or bisexual, that many people do not relate to themselves. In some cultures, for example, men do not consider themselves gay or bisexual when they are the insertive partner with other males; only the receptive partner is viewed as homosexual. A few same-sex episodes of intercourse may not lead to identification as homosexual. In other words, men and women engage in sexual behaviors that do not necessarily define their identities, and a person's self-image does not always relate to the labels that a culture may impose. "Have you ever had sex with another man?" will be more effective than, "Are you a homosexual?" Be direct and to the point. It is important to ask direct questions about specific behaviors. Because people are uncomfortable talking about sexual issues, they may be tempted to avoid questions or to give evasive responses.

Don't assume anything! It can lead to errors. For example, just because a person is married, don't assume s/he is monogamous or heterosexual. Being handicapped or elderly does not preclude sexual activity.

"How's your sex life?" is not an appropriate introductory question when beginning a sexual history. Appropriate questions relate to frequency of contacts, numbers of partners in

Case Study: Michael



You begin the risk assessment by asking Michael some general health questions.

He responds willingly to these questions. When asked if he is sexually active, Michael responds, "Yes." You ask Michael how many partners he has had in the last six months, and he responds, "Three." When you ask him about his condom use, Michael pauses and thoughtfully responds, "Sometimes." When asked if he's ever had anal intercourse, Michael says, "No," and then adds in a low voice, "...not lately." You then ask him how long it has been. He says, "A couple of months." You also learn that Michael had oral sex within the last 30 days without using a condom.

You continue the risk assessment and discover that Michael is a recovering alcoholic. He tells you that he began drinking because he was ashamed about being gay. He says that over the past five years he has come to terms with his sexuality with the help of gay support groups and a Red Road recovery program. Michael tells you that he left the reservation when he was a teenager because of physical and verbal assaults from his peers, and even family members, for being gay.

Michael tells you that when "word" got back to his family they were very angry and ashamed of him. One of his brothers beat him up "pretty bad." He tells you that this is the brother who died in the car accident. Michael's mother tried to protect him from their hurtful words, but to no avail, so he left home. He moved in with his grandmother until he graduated from high school. After graduation, he moved to the nearest city and lived there until his recent return. Michael tells you most of his immediate and extended family have now come to accept him, as have many community members.

Michael says he isolated himself from his family and the community for a long time. He has returned to the reservation not only to care for his father, but also to heal from some of his past experiences on the reservation. He tells you that this is part of his recovery process.

a given time period and sexual practices. At times, a less direct question is appropriate, i.e., "Is there anything about your lifestyle such as travel, sexual practices, diet, or use of drugs, that might help me diagnose your medical problem?" Generally, direct questions that give permission to discuss difficult topics are best:

- "How many sexual partners have you had?" "In the last ten years?" "In the past 12 months?"
- "Have your partners been men, women, or both?" Don't assume someone has exclusively male or female partners.
- "What do you know about the sexual activities of your partner(s)?" Ask if the partners have other male and/or female partners, inject drugs, have hemophilia, have had a blood transfusion, or are known to have HIV infection or AIDS.
- "What do you do to protect yourself during sex?" "When did you last have unprotected sex?"
- "Have you ever had sex with someone you didn't know or just met?"
- "Have you been sexually active in another city? Another country?" Risk may increase or decrease depending on the prevalence of the epidemic in a particular area.
- "When was the last time you had sex while drunk or high?"
- "Have you ever given or received money for sex?" "Have you ever exchanged sex for drugs? For other items?" This is less threatening than using the term prostitution, which can have different meanings for different people.
- "Have you ever had a sexually transmitted

Case Study: Linda



You proceed with Linda's risk assessment. You learn that she has been sexually active since age 16. Her first sexual activity was with a 21-year-old man from her reservation. They used condoms infrequently. Linda was with him for two years, but ended their relationship when he became physically abusive. She tells you he was a heavy drinker. He would often go out drinking with his friends. On occasion, he would take her with him and she would drink too. When you ask her about his sexual behaviors, she reluctantly tells you that she heard that he would "go with guys too" but she never asked him about it because she was afraid he would get angry with her.

She had a subsequent eight-year relationship with a man from a nearby reservation and got pregnant when she was 23. He is the father of her 10-year-old son. While together, they relocated to this city. She drank throughout this relationship, and finally was admitted to an alcohol treatment program two years ago when the relationship broke up. She began using alcohol again a year later.

She tells you that she used alcohol up until she started using heroin. She had only been using heroin for a few weeks when she overdosed. She was hospitalized for the overdose, then admitted to a chemical dependency treatment facility.

She says she got together with her last boyfriend two months before the overdose and that he is the one who introduced her to heroin. She hasn't seen him since the overdose, although she has looked for him at a couple of powwows. She heard a rumor that he hasn't been around because he's sick and she is worried. She does not know if he was HIV infected, but she knows that drug users can get HIV. She had hoped to ask him about it at a powwow.

You ask her if she shared injection equipment with him. Linda hesitates, and then responds, "A few times." She adds that she "doesn't remember much" from this time period. When asked about her use of condoms during this time, she quietly says, "Not much."



disease (such as syphilis, gonorrhea, chlamydia, or others)?" If so, find out the nature and date of the infection, whether it was treated, and whether there was any recurrence.

Ask directly and non-judgmentally about a full spectrum of sexual practices:

- "What type of sexual intercourse do you have?" Ask about vaginal, oral, and anal intercourse. Ask about condom use.
- "Tell me what you are referring to when you say 'sex'?" or "When you say you had sex, what do you mean?"
- Ask for an explanation of sexual practices that may be unfamiliar to you. "I don't understand what that means, would you please explain/describe . . ."
- "Are you usually the insertive or the receptive partner?" Ask this question for oral, vaginal, and anal intercourse.
- "Do you engage in sexual practices that do not involve intercourse?" Masturbation (with or without a partner), kissing, "necking", and "petting", among others are sexual activities that present less of a risk for transmission of sexual diseases.

Clients may not know the clinical terms for the behaviors they practice. It is appropriate to check to see what the words being used mean to the individual. For example, oral intercourse is not commonly used; the client is more likely to refer to oral intercourse as "going down on someone" or "giving a blow job." It is not necessary to use the slang term; asking the client what s/he calls oral sex and clarifying the meaning should be

adequate. This is also true of anal intercourse which may be referred to by clients in varied slang terms. It is a good idea to summarize what the client said to avoid any misunderstanding. This gives the client the opportunity to clarify responses. Again, it is important that both the provider and client understand that they are talking about the same behavior.

GUIDELINES FOR CONDUCTING A SUBSTANCE USE HISTORY

It is essential that the attitude of the health care provider be non-judgmental and non-moralistic about alcohol, drug, or other substance use. Substance use of any type may be embarrassing to a client and, especially since injection drug use is illegal throughout the U.S., clients may be reluctant to be truthful unless trust is established with the practitioner.

Again, *do not assume anything*. Substance use occurs in all socio-economic strata.

Experimental, casual, social or recreational use of substances, even one time, can result in HIV exposure. Injecting drugs is particularly risky; anabolic steroids, insulin, and vitamins may be injected and represent a potential source of HIV transmission if injection equipment is shared. Use of alcohol, other drugs, and some other substances also create risks, but indirectly, by leading to impaired judgments regarding sexual activities or by incapacitating an individual, rendering him/her vulnerable to the actions of others.

The health care provider needs to be sensitive to these issues, especially since the use of alcohol and related morbidity and mortality patterns are

Case Study: Michael



Based on his sex and drug history, Michael is at risk for HIV infection. When the risk assessment is completed,

Michael tells you that he has been asked these questions before. He tells you that he was tested for HIV about a year ago at an anonymous clinic, but that he did not return for the results. He tells you that he knows that he has placed himself at risk for HIV and believes he may be infected. He canceled the last two appointments with his primary care physician in the city for this reason. However, he admits to you that besides his mouth he has not been feeling well for the past few months. He knows that he cannot avoid finding out his HIV status, especially since he wants to feel better to be able to help care for his father.

much higher in Indian Country than in the rest of the U.S. Experimentation, as well as regular use of substances, can start at very early ages among Native Americans. Knowing this, health care providers should ask relatively young clients about substance use practices. Look for other clues in the history and physical: antisocial behavior, recurrent criminal arrests, needle tracks.

Start with less threatening questions:

- "What over-the-counter medications are you taking?"
- "What prescription drugs are you taking?"
- "Do you use alcohol or tobacco?"
- "What about marijuana?"
- "Have you ever used drugs bought from or given to you from a non-medical source?"
- "Have you ever injected any kind of drug?"
- "Have you ever used other substances to get

high (e.g., glue, hair spray, etc.)?"

Try exploratory questions (especially with teens):

- "How easy is it to get alcohol or drugs?"
- "What happens at parties?"
- "Do you know people who use drugs?"
- "Do you know people who sniff or ingest other substances?"
- "How often do your friends use alcohol, drugs, or other substances?"

If there is a positive history of injection drug use, get more information:

- "What drugs do you inject?"
- "When did you last inject drugs?" "Share needles?" "Share other drug equipment?"
- "With whom do you inject drugs?"
- "Tell me how you inject the drugs."
- "Do you clean your works (equipment)?"
If so, ask how.

Case Study: Linda



Linda's drug and sex history confirm that she has placed herself at high risk for HIV infection. You ask

Linda if she has ever been tested for HIV. She shakes her head and says, "No." Her demeanor quickly changes and she becomes visibly anxious. She tells you that she is interested in getting tested but that she knows some of the clinic employees and she wouldn't want them to know she was getting tested.

You emphasize that testing is her decision. You tell her the test is confidential and only a few personnel will know about it. You tell her that if she gets tested, she will need pre-test counseling. You suggest that you do the pre-test counseling and that she can use that information to decide about getting tested. She says, "Well, okay."



Summary of Pre-test Counseling:

- Client-centered risk assessment
- Test decision counseling
- HIV testing information
- Informed consent
- Risk reduction counseling
- Personal risk reduction plan
- Assess emotional vulnerabilities and support systems
- If test is performed, schedule follow-up visit for 10–14 days after test to provide results (depending on labs available in your area)

What are your responsibilities to your client related to HIV antibody testing?

Clients should not be pressured and should be allowed to determine when they are ready to be tested. Test decision counseling is the process of assisting clients in making decisions about when, if, and how to be tested. Since there is no way to know whether or when a client will decide to be tested, it is important that the provider utilize any available opportunity to proceed with pre-test counseling, including education about HIV antibody testing, HIV transmission, and risk reduction counseling. An important question to ask during pre-test counseling is, “What do you think you would do if the test shows that you are infected with HIV?” If the response indicates dysfunctional coping (the client mentions suicide or threatens to harm a partner, for example), it may be appropriate to encourage a delay in testing until the issue can be resolved.

What do you need to tell clients about the HIV antibody test?

HIV ANTIBODY TESTING

The HIV antibody test determines the presence of HIV antibodies, not the virus itself or AIDS. The presence of antibodies indicates infection with the virus. It does not determine the stage of HIV disease. The client should be told that a positive test indicates HIV infection, not AIDS, and that a negative test may be falsely negative if it is performed during the window period between initial infection and seroconversion.

CONFIDENTIAL AND ANONYMOUS TESTING

HIV antibody testing may take place in a clinician's office or at designated HIV counseling and testing sites. When a good provider-client relationship exists, the client often feels more comfortable being tested by someone who knows her/his medical and social history. Other people prefer to be tested in a location where they will not be known. Providers must be aware of the various options for HIV-antibody testing in the state or community in order to advise clients appropriately. Confidentiality

Case Study: Michael



Michael wants to get tested but wants to know if the result can be kept confidential.

He tells you that although some people in the community already “know” about him, he doesn’t want people to now suspect that he has HIV. You reassure him about the confidentiality in the clinic and he consents to the test.

Michael’s blood is drawn and you also scrape his tongue for a specimen. Microscopic analysis confirms your diagnosis of oral candidiasis and you give Michael a prescription for oral medication. You make an appointment for Michael to return in two weeks with instructions for him to call if he has any problems.

Case Study: Linda



You tell Linda that you would need her informed consent to test her.

Linda says she'll think about it. You tell her that it takes up to two weeks for the test results to come back. "That long?" she asks. "Well, in that case, I guess I should get tested now and find out."

Linda's blood is drawn and another appointment is scheduled in two weeks.

is a particularly important issue in many Native communities. Since many of the local health care facilities are small and staffed by community members, the likelihood that a client is related to or knows a staff member is great. Experiences with loss of confidentiality regarding health care issues are common, so it is imperative that the provider know local and institutional confidentiality policies and exercise even greater caution when conducting HIV testing.

Designated test sites are sponsored by state health departments. Testing may be done confidentially or anonymously, depending on state law and health department policy. Individuals must understand and consent to the method that will be used.

- In confidential testing, individuals are asked to provide identifying information, including a name and address. Using this information, it will be possible to locate and provide information to an individual who does not return for test results and counseling. All records are kept strictly confidential.
- In anonymous testing, individuals are not

asked to provide identifying information. Records are kept by assigned numbers and the client must retain this number to receive test results. It is not possible to locate and provide information to an individual who does not return for test results and counseling.

It is critical that providers be informed about local laws related to HIV testing. These laws vary from place to place and are subject to change. Local public health offices can help clinicians stay up to date. Local laws, for instance, determine the types of testing available. Testing that takes place in a clinician's office is subject to the laws of the state where the testing occurs. It is important to inform the client whether the test referral and/or result will be linked to the client's medical record. Clients should be informed about the documentation of test results and the practical limitations relating to confidentiality.

INFORMED CONSENT

Informed consent generally involves explaining the HIV antibody test: its purpose and possible uses, its limitations (i.e., "window period," "false-negative," and "false-positive" results), and the meaning of test results. Consent policies are established by state law and vary among states. The most common and acceptable policy is to obtain written informed consent prior to HIV antibody testing. At anonymous test sites, where the individual does not reveal a name or other identification, consent is implied. Individual state laws dictate whether consent may be given by a minor or whether it must be obtained from a parent or guardian.

In all states, there are some exceptions to informed consent, usually in critical care or emergency situations. For example, a health care worker may be exposed to significant amounts of blood in a crisis situation where the client is incapacitated and unable to give informed consent. In those cases, blood may be tested for HIV without the client's consent, but these circumstances are rare.

Explain the applicable limits of confidentiality in the office, clinic, or hospital setting where the client is being tested. The client should be told who will have access to the test results and what will be done with that information. The provider should explain any state law that requires reporting HIV disease (which differs in each state) and AIDS (which is required in all states). The use of a positive test result to initiate partner notification should also be discussed where this is legally required. Ultimately, the client must make the decision

Case Study: Linda



As part of pre-test counseling, you asked Linda about her support systems. She tells you that her son and mother and most of her relatives live 200 miles north of here. She has not been home

much in the last couple of years. She also tells you that she just started going to a Native women's recovery talking circle at the Indian Center. She has met a couple of women who she is getting to know.

You are concerned that she does not have a very strong support system here. You refer her to local chapters of Alcoholics Anonymous and Narcotics Anonymous for additional support. Linda tells you that she knows about a Native specific recovery program.

to be tested. The client will also decide when, where, and how to be tested.

What can you do to help your client reduce his/her risk for exposure?

Risk reduction counseling is a strategy for assisting clients to reduce personal risk for exposure to HIV. Clients at risk for HIV infection need to realistically evaluate their potential for exposure to HIV and to develop a strategy to reduce or eliminate that risk. Providers can be instrumental in facilitating this process by providing counseling that is tailored to the behaviors, circumstances, and special needs of the person being counseled (client centered). Risk reduction counseling should be:

- Linguistically appropriate – information presented in a manner consistent with the client's language and style of communication
- Culturally appropriate – provided in a style and format sensitive to the client's cultural norms, values and traditions
- Sensitive to sexual orientation – provided in a value-neutral style that acknowledges variety in sexual expression
- Developmentally appropriate – provided at a level of comprehension consistent with the client's age and learning skills

Effective risk reduction counseling is dependent on the provider's ability to listen to the client in order to determine specific prevention needs. Client-centered risk assessment and the personal risk reduction plan are two useful counseling methods.

CLIENT-CENTERED RISK ASSESSMENT

Client-centered risk assessment is a joint process between a provider and a client identified to be at-risk for (or already infected with) HIV. It serves as the basis for assisting the client to formulate a plan to reduce personal risk for HIV infection or, in the case of HIV-infected individuals, to reduce the risk of transmission to others. It is an essential component of all HIV counseling.

Client-centered risk assessment:

- Is a process whereby the provider helps the client assess and understand the level of personal risk for HIV infection. Acknowledging risk is a first step in risk reduction.
- Is an interactive process between a provider and a client.
- Should be conducted in an empathic manner with special attention given to the ongoing behaviors and circumstances (e.g., sexual history, history of sexually transmitted diseases, drug use) that may place the client at risk for HIV infection. For example, a client in an STD clinic should be advised that his current STD infection was caused by behaviors that could also result in an infection with HIV.
- Assist the client to identify both successful and unsuccessful previous attempts at prevention behaviors.

THE PERSONAL RISK REDUCTION PLAN

The personal risk reduction plan should:

- Be the outcome of discussions between the provider and the client

- Be consistent with the client's expressed or implied desires to change risky behaviors
- Be based on the client's personal circumstances (skills, needs, etc.)

The provider must listen carefully and help the client incorporate his/her ideas into the plan. The client must take ownership in the process and the plan for it to be successful. Together with the client, the provider should develop a list of specific options for reducing risky behavior. For example, discussing options for proper cleaning of injection equipment ("works") for injection drug users (IDUs), for not sharing needles, or for effective condom use.

When negotiating a personal risk reduction plan, providers should be particularly attentive to information provided by the client – especially information about past attempts at prevention behaviors that were successful (using a condom in a new sexual relationship, for example) as well as those that were unsuccessful (being pressured into sharing injection equipment, for example). Identifying and discussing previous prevention failures helps to ensure that the risk reduction plan is realistic, attentive to the client's prevention needs, and focused on coping with barriers to safer behaviors. Identifying previous prevention successes offers the opportunity to reinforce and support positive prevention choices.



What important prevention concepts should be conveyed to clients?

- HIV infection is preventable
- Individuals can eliminate or lower their risk for HIV infection
- People can make choices about harm reduction activities that fit best into their own situations
- Changing behavior can be difficult, but health care providers and others will help – clients don't have to do it alone

Michael and Linda are both at risk for HIV infection through sexual transmission. How can you counsel them about personal protection? How can you counsel them about protecting their sex partners?

During counseling about preventing the sexual transmission of HIV, it is useful to provide messages for both risk elimination and risk reduction based on the continuum of risk-associated practices. The importance of knowing the HIV antibody status and sexual and drug use practices of sexual partners should be emphasized.

There is no risk of sexual HIV transmission for:

- Those who practice sexual abstinence.
- Partners in a mutually monogamous relationship in which:
 - Neither partner was previously exposed to HIV
 - Both have tested HIV-antibody negative at least six months after any previous potential exposure to HIV
 - Neither partner participates in behaviors that put either partner at risk of infection

Risk of HIV Transmission Associated with Sexual Practices

High Risk (in descending order of risk)

- Receptive anal intercourse with ejaculation (no condom)
- Receptive vaginal intercourse with ejaculation (no condom)
- Insertive anal intercourse (no condom)
- Insertive vaginal intercourse (no condom)
- Unprotected receptive anal intercourse with withdrawal prior to ejaculation

Some Risk (in descending order of risk)

- Unprotected receptive oral sex with ejaculation
- Unprotected receptive oral sex with pre-ejaculate fluid (pre-cum)
- Unprotected receptive oral sex with no ejaculation or pre-cum or unprotected oral sex on a female partner

Some Risk (depending on situation, state of membranes, etc.)

- Sharing of sex toys
- Mutual masturbation with internal anal or vaginal touching
- Receptive or insertive anal, vaginal, or oral intercourse with barrier protections*

No Risk

- Hugging/massage/dry kissing
- Frottage (rubbing genitals while remaining clothed)
- Masturbating alone
- Abstinence

* Consistent and correct use of latex or polyurethane, male or female condoms is highly effective in reducing risk.

For couples in which one or both have unknown antibody status or where one partner has a positive antibody status, risk is eliminated by:

- Not engaging in insertive vaginal or anal intercourse
- Not engaging in oral-genital sex
- Engaging in intimate activities such as hugging, caressing, dry kissing, and mutual masturbation, where blood, semen, vaginal secretions, or fluids with blood are not exchanged.

For persons with negative HIV antibody tests who do not have a mutually monogamous relationship, the risk of sexual HIV transmission is reduced, but not eliminated by:

- Limiting the number of sexual partners. Statistically, exposure to HIV is less likely for persons with fewer different partners.
- Practicing safer sex techniques. The most important measure is avoidance of anal or vaginal intercourse without consistent and appropriate use of latex or polyurethane condoms. Dental dams or latex barriers offer protection for oral/genital or oral/anal contact.

When both partners are infected with HIV, it is prudent to recommend the use of condoms and the avoidance of partners with other sexually transmitted infections. HIV exists in various serotypes, and infection by one type does not preclude infection by another. In addition, concurrent infection with a sexually transmitted disease or other HIV serotype can aggravate the progression of HIV disease and the other sexually transmitted disease(s).

What are the important points about condom use that Michael and Linda should understand?

Most importantly, they must be counseled that consistent and correct use of latex or polyurethane condoms can protect against HIV during sexual intercourse.

After reviewing many studies, the CDC reports that latex condoms are highly effective for preventing HIV infection and other STDs when used consistently and correctly. A European study of

256 men and women whose partners were HIV infected, found that those couples who used condoms consistently for vaginal and anal intercourse had no new HIV infections. For the 121 couples who did not regularly use condoms, 12 new infections occurred (de Vincenzi, 1994).

The CDC recommends the use of latex or polyurethane condoms. “Natural skin” condoms are not recommended for disease prevention; they have pores that viruses can pass through. Nonoxynol-9, a spermicide previously thought to decrease the risk of HIV transmission, has been shown to cause genital ulcers with frequent use and is not currently recommended for protection against HIV.

Lubricants used with latex condoms must be water-based to preserve the integrity of the latex. Petroleum-based products such as Vaseline® and mineral oil degrade latex and can cause breakage.

Female condoms are now available in drug stores and supermarkets in the U.S. They provide women with more control in sexual encounters, and are an effective method of protection. Be aware that they are more costly than male condoms and some couples complain that they are difficult to use. Couples who decide to try female condoms need encouragement and education from knowledgeable personnel.

Research continues in the development of topical microbicides for use as HIV-prevention agents, such as creams, gels, and films that are applied inside the vagina or rectum before intercourse. They are designed to provide less obtrusive alter-



natives for protection against HIV and other sexually transmitted diseases. While numerous compounds are under development, topical microbicides are not yet available. It is essential that clients know how to use condoms effectively, and it is a provider's responsibility to communicate information on condoms and condom use. Demonstrating the correct use of a condom is the most effective means of communicating this information. If the client uses oral contraceptives, it is essential that she understand that while oral contraceptives will protect against pregnancy, they will not protect against transmission of HIV or other STDs.

Cleaning Needles and Syringes

- If you share injection equipment, carry small bottles of bleach and water.
- Before using bleach, rinse the needle and syringe several times with clean water.
- Fill syringe with 100% bleach and shake the syringe for at least 30 seconds. Repeat this step 2–3 times. If this is too difficult or not a likely practice, after each use the syringe should be filled and left full of bleach until the next use.
- Squirt bleach out and fill syringe with clean water several times (don't re-use water from initial cleaning — it may be contaminated).
- Remember: Sharing any drug use equipment (e.g., needles, cookers, cotton or rinse water) is unsafe.
- To effectively kill HIV, the blood must be in contact with 100% bleach for at least thirty seconds.

How should you counsel Linda about preventing HIV infection through injection drug use?

Injection drug use refers not only to the use of illicit "street" drugs, but also to any injectable drug or medication, including steroid, vitamin and insulin injections. It is essential to be realistic about drug use. If a client is using injection drugs, the safest choice is to always use sterile,

unused needles and syringes or equipment that has not been used by others. To reduce HIV transmission risk among people who share injection equipment or "works," give instructions about getting sterile equipment, and cleaning needles, syringes and any other equipment.

Information about substance abuse treatment, needle and syringe exchange programs, and social support systems should be given when appropriate.

Effective Use of Male Condoms

Used consistently and correctly, latex and polyurethane male condoms can significantly decrease the risk of transmission of HIV infection and other sexually transmitted diseases. Recommendations for male condom use:

- Use a new condom with each act of intercourse.
- Handle the condom carefully to avoid damage.
- Ensure that no air is trapped in the tip of the condom.
- Ensure adequate lubrication during intercourse.
- Put the condom on after the penis is erect and before any genital contact with a partner.
- Use only water-based lubricants (e.g., K-Y Jelly®).
- Hold the condom firmly against the base of the penis during withdrawal, while the penis is still erect, to prevent slippage.

Effective Use of Female Condoms

Used consistently and correctly, polyurethane female condoms can significantly decrease the risk of transmission of HIV infection and other sexually transmitted diseases. Recommendations for female condom use:

- Use a new condom with each act of intercourse.
- Handle the condom carefully to avoid damage.
- Insert the condom into the vagina before any genital contact with a partner.
- Ensure that the penis enters through the external opening of the condom.
- Ensure adequate lubrication during intercourse.
- Use only water-based lubricants (e.g., K-Y Jelly®).
- Twist the condom and pull it out of the vagina after ejaculation.
- Female condoms can be used for anal intercourse if the internal ring is removed. Place the condom over the erect penis prior to initial insertion.

Study Questions, Part II

Determine whether each statement is true or false:

1. A risk assessment should be conducted on all new patients.
2. Counseling prior to HIV-antibody testing is only recommended for patients who are expected to have a positive test result.
3. Exposure to HIV via occupational needle stick injury results in infection over 50% of the time.
4. Sputum has been shown to transmit HIV in certain circumstances.
5. HIV has been transmitted during vaginal, anal, and oral intercourse.

Select the correct answer:

6. Which of the following has been documented to transmit HIV infection?
 - a. Mosquito bite
 - b. Coughing
 - c. Breast feeding
 - d. Sharing eating utensils
7. Which of the following should be considered a significant exposure to HIV?
 - a. Your clothing becomes soiled with emesis from an HIV-infected patient
 - b. You accidentally touch fecal material from an HIV-infected patient
 - c. Your intact skin comes into contact with blood from an HIV-infected patient
 - d. None of the above
8. Which route of HIV transmission is now the least likely in the United States?
 - a. Unprotected sexual intercourse
 - b. Blood transfusion
 - c. Shared injection equipment
 - d. From infected mother to infant
9. Which of the following is an appropriate question to ask during a risk assessment?
 - a. When was the last time you shared injection equipment?
 - b. You don't use drugs do you?
 - c. Are you gay, straight, or bisexual?
 - d. Do you engage in any weird sexual practices?
10. Effective and proper use of male and female condoms does not include:
 - a. Condom in place prior to genital contact
 - b. Use of a new condom with each act of sexual intercourse
 - c. Use of oil- or water-based lubricants
 - d. Handle condoms carefully to avoid damage

Answers and discussion can be found in the Resource section.



SECTION III EARLY INTERVENTION

Learning objectives.

By the completion of the Early Intervention section, the learner will be able to:

- Describe the components of post-test counseling -
- Identify the important elements of an initial history in an HIV-infected individual
- Explain the key components of an HIV infection-oriented physical exam
- List HIV-related lab tests
- Describe the importance of early identification and treatment for HIV-infected pregnant women
- Identify early signs and symptoms of HIV disease -

What tests are performed to determine HIV status?

The widely used HIV serologic laboratory tests use for screening detect the presence of antibodies, not the virus itself. The CDC recommends that laboratories report serologic test results as positive, negative, or indeterminate. Positive test results should not be reported to a client until the screening test (EIA or ELISA) has been repeatedly reactive (i.e., two or more tests) on the same specimen and a supplemental, more specific test (such as the Western blot) has been used to confirm those results. This procedure is generally followed by testing laboratories.

ENZYME-LINKED IMMUNOASSAY (EIA OR ELISA) SEROLOGIC TESTS

Virtually all HIV testing programs screen

specimens with EIA. If the EIA is reactive, it is repeated. A repeatedly reactive specimen is then tested with a confirmatory test, such as the Western blot.

In general, the EIA is a highly sensitive and specific laboratory assay. However, no EIA test is 100% sensitive (positive in 100% of persons with HIV infection) or 100% specific (negative in 100% of persons without HIV infection). Thus, there may be false-negative and false-positive EIA test results. Sensitivity and specificity vary by manufacturer, laboratory, and the individual's stage of infection. In addition, the EIA may cross-react with other antibodies, causing a false-positive test. Most EIA tests have a sensitivity and specificity greater than 98%; some approach 100%. The combination of EIA and Western blot assay has an extremely high positive predictive value (persons with positive tests are almost certain to be infected), even in low-risk populations.

WESTERN BLOT ASSAY

The CDC and the Association of State and Territorial Public Health Laboratory Directors define a positive Western blot assay result as any two of three bands (p24, gp41, gp120/160) that correspond to HIV antigen markers present in the specimen. The criteria for a negative Western Blot interpretation specify the absence of any and all bands. All other band patterns are regarded as indeterminate, i.e., bands are present but they do not fulfill diagnostic criteria. The client with indeterminate results should be carefully re-interviewed for risk behaviors, the blood sample should be subjected to additional laboratory tests, and serial testing over



a period of weeks to months should be performed. Persons with indeterminate Western Blot test results should consider themselves to be infected until proven otherwise. They should not donate blood, plasma, semen, or organs. They should also protect sexual and needle-sharing partners from exposure to blood, semen, and vaginal secretions.

Other supplemental tests include the indirect immunofluorescence assay (IFA), polymerase chain reaction (PCR) and radioimmuno-precipitation assays (RIPA), although their use is generally limited to reference laboratories.

Case Study: Michael



As you suspected, Michael's HIV antibody test is positive. At Michael's follow-up appointment you ask him how he's feeling. He tells you that his mouth is better but that he still has some white areas. He adds that it's going well at home and that he is enjoying spending time with his father.

Michael then sits quietly and knowingly looks to you for your next words. You tell him that his HIV test came back positive. Michael does not seem surprised by the result.

Michael responds with, "So that's why my mouth is so bad." You tell him that if his CD4 + T cell count is low then this may explain why his mouth has not responded completely to the medication. You then explain to him the CD4 + T cell count ranges for asymptomatic HIV infection, symptomatic HIV infection, and an AIDS diagnosis.

OTHER TESTING METHODS

New HIV testing methods have been developed since 1996. These methods offer advantages over older testing methods either in terms

of time or ease of biological sample collection. The three tests discussed below have all been shown to have a greater than 99% sensitivity rate and are FDA approved.

Rapid test. Murex Single-Use Diagnostic System (SUDS®) for HIV-I is rapid blood test that can be performed in an average of 10 minutes, offering a dramatic improvement over the standard EIA tests that take days or even weeks to obtain results. Most significantly, individuals receiving negative test results do not have to return for a second visit to obtain their results – they receive them shortly after the test is performed. For positive tests, however, a confirmatory EIA and Western Blot protocol is still required to eliminate false positives. This requires a time delay and a second visit or appointment to obtain the results. The CDC has issued rapid testing guidelines to allow "provisional positive" results to be disclosed at the time of testing. In addition, new recommendations were included for counseling on this and other topics specific to this form of testing (CDC, 1998b).

Saliva test. The Orasure® Test System consists of a specially-treated pad that is placed between the lower cheek and the gum and allowed to absorb saliva for two minutes. It is then placed in a vial and sent to the lab for analysis. EIA and Western Blot can both be assessed on the saliva specimen and results can be reported in as little as three days. The biggest advantage of this test is that the client does not have to undergo phlebotomy (Bartlett & Gallant, 2000). Clinicians need to be aware that saliva testing has reintroduced the fear that HIV can



be transmitted by saliva exposure. It may be necessary to re-explain that the amount of virus present in the saliva of HIV-infected people makes transmission difficult AND to point out that the saliva test detects HIV antibody and not the virus itself.

Urine test. The Calypte® HIV-1Urine EIA is an inexpensive screening test that must be administered by a physician. Once again, the client can avoid venipuncture using this method. The major disadvantage, as with the SUDS, is that confirmatory testing cannot be done on positive specimens and the client will need further testing to decrease the risk of a false-positive test result (Bartlett & Gallant, 2000).

Signs and Symptoms of Acute Retroviral Illness

- fever
- swollen lymph glands
- sore throat
- rash
- muscle and/or joint pain
- diarrhea
- headache
- nausea and vomiting
- swollen liver and/or spleen
- weight loss
- thrush
- neurological problems

When do HIV antibodies become detectable to the HIV antibody test?

The "window period" is a critical concept in HIV testing; it is the time between initial infection with HIV and the development of enough antibody to be detected through testing. In general, the length of time required to produce enough HIV antibody for a positive test result

(seroconversion) is 3 to 12 weeks. A recently infected individual, therefore, may not have a positive antibody test result but still be infectious to others. The virus is not latent during the window period or any subsequent period. In fact, the viral load is higher after initial infection than any period until advanced HIV disease. After this initial "spike," the viral load decreases to a more stable "set point" by six months.

Understanding the window period is important

Post-Test Counseling if the Test Result is Negative

- Reinforce and review risk elimination/risk reduction guidelines for the prevention of HIV transmission.
- Confirm that the last possible exposure was not within the last six months. If it was, encourage retesting in 6-to-10 weeks.
- Provide information on community support services, drug treatment programs, and behavior modification services, if needed.
- Provide information on psychosocial support, if appropriate.

for recommendations regarding further testing and for risk prevention. A recently exposed person should be tested immediately to obtain a baseline and get counseling. S/he should then be advised to return for HIV antibody testing 6 weeks and 3 months after the exposure incident. Exposed individuals should be counseled about the signs and symptoms of acute retroviral syndrome (during which seroconversion occurs) and encouraged to report any such illness immediately. Many experts suggest aggressive treatment during seroconversion illness (CDC, 2001b). Persons concerned about risk or potential exposure should be counseled to take precautions to prevent possible transmission of HIV during the window period. It is important to ensure that persons

receiving pre- and post-HIV test counseling understand this concept.

Post-Test Counseling if the Test Result is Positive

- Assess for mental distress and/or suicide risk. Assess availability of personal support system (friends, family, etc.). Provide information on availability of local counseling and support services.
- Encourage medical follow-up to obtain a baseline physical examination, appropriate lab tests (including PPD skin test for TB and pregnancy test, if indicated), and evaluation for drug therapy and opportunistic infection prophylaxis.
- Assess the need for a case manager or care coordinator.
- Review guidelines for eliminating or reducing the risk of transmission to others.
- Discuss plan for partner notification.
- Discuss the terminology of HIV and AIDS, concepts like CD4+T cell count and viral load, and the signs and symptoms of HIV-related illness.
- Discuss the importance of avoiding additional illnesses that will stress the immune system, such as sexually transmitted diseases, colds, flu, and other infections.
- Review principles of good health such as nutrition, stress reduction, sleep, and exercise.
- Provide educational materials (pamphlets, videos, etc.), as appropriate.

In addition to the positive HIV result, what other issues must be discussed with your client during post-test counseling?

Post-test counseling is an essential part of the HIV testing process and should be done, in person, with each client who has had the test. Post-test counseling should be individualized to each client according to the positive or negative result of the test, the client's response to the test result, the client's risk history, and the emotional vulnerabilities and needs of the client.

What kind of emotional assessment should be provided for seropositive clients?

Social support systems, suicide prevention, and additional mental health needs should be evaluated following an HIV-positive test result. As with any chronic or terminal illness, coming to terms with HIV infection can be stressful and upsetting. Some studies have shown an increase in the suicide rate in persons positive for HIV, even before illness occurs. Suicide is typically contemplated at crisis points along the disease continuum; getting a positive test result is one of these crisis points. Therefore, careful counseling after a positive test with prompt referral to appropriate mental health and other resources, as appropriate, is critical.

Case Study: Linda



At the follow-up appointment, Linda tells you that she is attending Alcoholics Anonymous meetings. She also started working and seems to be feeling good about herself.

You then tell Linda that her test was positive for HIV, indicating that she has HIV infection. Linda does not react to the test result but remains quiet as if processing the information.

You begin the post-test counseling. You reassure her that new treatments slow the progression of HIV and that with proper care, she could live for a long time.

You also talk with her about the progression of the disease. You tell her that you need to conduct a physical examination and draw some blood from her to know how the virus is affecting her body. She is asymptomatic at this time.

You schedule another appointment with her two weeks later. After a long talk, you suggest that she consider attending an HIV support group for women. Linda tells you that she'll think about it.



Case Study: Linda

Linda returns to the clinic and seems angry. You coax her into telling you that a clinic employee told several people in the community about her HIV status. She adds that she was considering not showing up for her appointment.

You apologize to Linda and tell her that the employee breached client-patient confidentiality, that you will report it to the clinic administrator, and that action will be taken.

Linda then shares that she had been regularly attending talking circles and Alcoholics Anonymous meetings, but since the breach has not returned. She also has not attended the support group for HIV-infected women. You encourage her to attend these meetings, but particularly the HIV support group, since these women face similar issues.

Informal and formal support services should both be explored with the client. Social support systems include family support, group support, hotlines, and other community resources to assist the individual in managing emotional aspects of his/her diagnosis and disease progression. Social referrals may include linking local resources for case management, social work counseling, and dental care, as well as financial resources such as Medicaid, Medicare, or disability resources, depending on the client's stage of illness. In some communities a case manager is the main gatekeeper for service delivery systems. Access to some resources, such as disability benefits, is determined by stage of illness.

Knowledge of these issues and the service - resource network within the community is - crucial for appropriate referral to social work-

ers and other support services. This may be more difficult in rural areas, and providers may need to fill many roles as networks become established. Care of an HIV-infected client should be a team effort, with the client as the lead decision maker.

Not all information relating to seropositive post-test counseling must be presented at one visit. The most critical component of the first session is an emotional assessment of the client following the test result. Proceed with the other components at a pace that is appropriate for each individual client and his/her capability of absorbing the information.

Case Study: Linda

After Linda leaves, you talk to the clinic administrator about the breach of confidentiality.

Confidentiality is an important issue and you want to do your part to protect every patient's privacy. You and the administrator decide on a plan that includes education and disciplinary action.

Who else needs to be told of a positive HIV antibody test?

Disclosure is a serious and sensitive issue. Informed consent must be obtained for any disclosure to other service providers, and health care providers have a legal and ethical responsibility to maintain the confidentiality of client status and treatment. This can be especially challenging in small communities or rural areas where confidentiality can be breached without even the mention of a name.

It is essential that office staff are oriented to the responsibility of maintaining confidentiality, and that clinic records are managed appropriately. The client should be helped to weigh the liabilities and benefits of disclosing HIV status. S/he can risk losing employment by revealing HIV antibody status to an employer or co-worker, resulting in the loss of income as well as health insurance benefits, even though such discrimination is illegal. A serious social stigma associated with HIV infection remains in many communities. On the other hand, careful disclosure to selected individuals such as family members and close friends can provide the HIV-infected individual with much-needed support. It can also work toward eliminating the stigma and misconceptions associated with HIV infection.

REPORTING REQUIREMENTS AND PARTNER NOTIFICATION

Positive HIV antibody test results are reported to the state health department in most states and territories. In all states, reporting is required when the individual has a clinical diagnosis of AIDS. Clients must be informed how test results will be used and how confidentiality will be maintained.

Partner notification is a means of targeting risk assessment and risk reduction education to contacts of infected individuals. Partners are identified as being at high risk for contracting and transmitting HIV. Partner notification is usually performed by the infected individual or a trained and authorized health department official. The term "partner" includes sex partners, contacts of injection drug users who share equipment, and those who have been exposed to

blood, blood products, tissues, fluids, etc. Partner notification for HIV infection, as for all sexually transmitted diseases, must be highly confidential and depends upon the voluntary cooperation of the client. Clinicians can contact the local health department for information and assistance with partner notification.

Case Study: Michael



Michael asks what will happen next.

You tell Michael that you need to conduct a complete physical examination to find out how the virus is affecting the rest of his body. You also tell him that you need to draw blood to check his CD4 cell count and his viral load. Michael nods his head in agreement.

He tells you that he does not want his family to know his HIV status. You reassure him this information is confidential; only a few people in the clinic will have access to the information, and they are sworn to confidentiality as employees of the clinic. Michael seems relieved by your words.

What are essential components of a health history of an HIV-infected client?

Three important goals are accomplished while taking the initial history. Because these goals are so important, the clinician may want to spend most of the initial visit on history taking, limiting the physical exam to specific complaints. First, obtain information about disease stage and risks for future complications. Second, begin counseling and educating the client about transmission prevention, health care maintenance, substance abuse treatment (if appropriate), psychological support, and symptoms that should prompt medical evaluation. Third,



begin to build a relationship of trust and mutual respect with the client. This is facilitated by encouraging the client to be a full partner in the management of his/her health care.

Goals of an Initial HIV-Related History

- *Information on disease stage and risks for future complications*
- *Client counseling and education*
- *Partnership building with client*

HISTORY OF PRESENT ILLNESS

• Previous HIV-related illness and evaluation.

It is important to evaluate how long the client has been infected with HIV. Asking specific questions about HIV-related testing and illness is useful in this evaluation. Ask about the possible occurrence of acute retroviral syndrome to help determine timing of initial infection. Ask about opportunistic infections, such as herpes zoster (shingles) and bacterial pneumonia, that may not have been associated with HIV infection. Note any history of HIV testing, including date of the first positive HIV antibody test and any previous CD4+T cell counts and viral load measurements.

• Risk behaviors and current sexual activity.

This information allows the clinician to conduct appropriate counseling to reduce HIV transmission. It also is of some interest in predicting complications (for example, men who have sex with men tend to develop Kaposi's sarcoma, which is less common in women and injection drug users). You may have already gathered some of this information in your initial

risk assessment. This is a good time to confirm and supplement that information.

- **Current level of functioning.** Problems such as increased sleep requirements or decreased work capacity may be reflective of the HIV infection itself or of related issues such as depression.
- **Emotional assessment.** Clients with HIV infection, especially those who have just learned of their infection, are particularly susceptible to depression, anxiety, insomnia and increased suicide risk. Frequently, these problems must be addressed before the client is able to participate in other aspects of treatment.
- **Medications.** It is important to establish an open client/provider relationship so the client will disclose all medication use, including over-the-counter, alternative or adjunct therapies, and illicit drug use. Particularly note the use of alternative treatments, mega-vitamins, and gray or black market drugs. Use of Native American traditional medicines or treatments is also relevant to this discussion. More often than not, such practices do not contradict those of the biomedical approach, and should be respected if the client is empowered through their use. Carefully assess whether any of these practices might be contraindicated for HIV care. The health care provider might also explore collaboration with local traditional practitioners in the treatment of HIV-infected clients. This latter strategy would enhance the trust between provider and client, and result in more comprehensive care.
- **Allergies.** This is important because many

clients will be treated with multiple drugs, such as antibiotics and sulfa drugs, at some point in the disease process.

PAST MEDICAL HISTORY

In addition to routine past medical history, the clinician should focus on the following issues that will affect decisions about laboratory tests, interpretations, and treatment recommendations:

- History of tuberculosis exposure and PPD testing. People at increased risk for TB exposure include household contacts of persons with TB, migrant/seasonal farm workers, injection drug users (IDUs), prisoners, the homeless, and persons from endemic areas, such as parts of Mexico and Latin America. Also, with rates of TB currently on the rise, health care providers are at increased risk for occupational exposure.
- History of viral hepatitis and hepatitis testing; history of immunization for HBV and/or HAV.
- History of STDs and recurrent vaginal candidiasis.
- History of Pap tests for women, including date of last Pap smear and any previous abnormal results. Cervical carcinoma is more aggressive in HIV-infected women.
- Immunizations: pneumococcal, HBV, HAV, Hemophilus influenzae type B (HiB), varicella vaccine, childhood series (DTP, MMR, polio), and diphtheria/tetanus (dT).
- History of dental problems and date of last dental exam.
- History of hospitalizations, surgeries, and blood transfusions.

SOCIAL HISTORY

• Alcohol, drug, and tobacco use.

Identifying the use of these substances alerts the provider to their potential for impairing adherence to medical treatment, the body's ability to fight infection, and judgment affecting risk behaviors.

• Social support.

Ask about current family relationships including long-term partners, spouses, children, parents, extended family structure, and close friends. Determine the extent of the client's perceived support system.

• Sexual or emotional abuse.

A history of sexual or emotional abuse can influence client behavior regarding issues such as the disclosure of HIV serostatus and the ability to effectively negotiate and implement a personal risk reduction plan or to adhere to treatment regimens. Fear of spousal or partner abuse may be a significant factor in client decision-making. Good client/provider rapport will facilitate communication about these sensitive issues.

• Place of birth, residence, and travel history.

Knowledge about the geographic areas in which the client has resided or traveled helps to identify infections for which the client may be at risk. For example, a client who has lived in the Ohio or Mississippi River Valleys is at increased risk for histoplasmosis, although histoplasmosis is not restricted to these areas. An individual who has lived in the southwestern U.S., northern Mexico, or parts of Central and South America is at increased risk for coccidioidomycosis.



- **Employment and living situation.**

Knowledge about these issues is crucial for appropriate referral to social services and other support services.

REVIEW OF SYSTEMS

While taking an HIV-focused review of systems, the clinician can educate the client about symptoms that require medical evaluation. Generally, the review of systems should be repeated at each follow-up visit.

- **General:** fever, night sweats, weight loss, anorexia, fatigue. Instruct the client to obtain a thermometer and to record body temperature when ill.
- **Skin:** rashes and other lesions, skin discoloration, easy bruising, Kaposi's sarcoma, syphilis.
- **HEENT:**
 - **Eyes:** visual changes, particularly new-onset blurriness or blind spots, are common symptoms of cytomegalovirus (CMV) retinitis
 - **Oropharynx:** toothache, ulcerations, discolored lesions or thrush. Many signs of HIV infection first appear in the oral cavity. Suggest that the client keep a flashlight by the mirror for periodic mouth exams. Recommend a dental referral (to an HIV-experienced dentist, if possible) for a baseline evaluation and ongoing care.
- **Gastrointestinal:**
 - **Odynophagia or dysphagia** (difficult or painful swallowing)
 - **Nausea, vomiting**
 - **Diarrhea:** many HIV-infected individuals

have 3-4 loose stools/day. In the absence of fever, abdominal pain, or weight loss, diarrhea does not require extensive evaluation unless chronic or affecting nutritional status.

- **Abdominal pain**
- **Anal pain or lesions**
- **Genitourinary:**
 - **Rashes, lesions, discharge**
 - **Dysuria**
 - **Menstrual history, pregnancies, contraception -**
- **Pulmonary:** cough, dyspnea
- **Neurological:**
 - **Headache:** "routine" headache in a person with a history of tension or migraine headaches and with a relatively high CD4+T cell count does not require extensive evaluation. However, a new type of headache, not relieved by routine measures and in an individual with a relatively low CD4+T cell count, should be promptly evaluated.
 - **Cognitive dysfunction:** problems with memory or concentration, mood swings.
 - **Peripheral neuropathy:** numbness or tingling in the feet or hands
 - **Focal weakness, seizures**
 - **Symptoms of autonomic neuropathy,** such as orthostasis, urinary or fecal incontinence.

Priority Areas of Physical Exam for HIV-Infected Clients

- *Vital Signs*
- *Skin*
- *Oral*
- *Genital-rectal*

What are the essential components of every physical exam of an HIV-infected client?

The initial physical exam of an HIV-infected client should be extensive. During follow-up visits, the clinician's time may be better spent discussing relevant issues such as medication adherence, emotional well-being, or substance abuse treatment. The physical exam can focus on areas of specific complaint and the screening activities suggested in the table at the end of this section.

Vital Signs: Since non-specific fever or weight loss may be signs of opportunistic infection, neoplasm, or progression of HIV infection, temperature and weight should be checked at each visit.

Skin Exam: The skin exam is important because of the numerous dermatologic manifestations associated with HIV, including xeroderma, seborrheic dermatitis, molluscum contagiosum, psoriasis, eczema, herpes simplex infection, shingles, bacterial abscess, and Kaposi's sarcoma.

Oral Exam: Many clients are not aware of oral complications of HIV until the disease is quite advanced, so routine exam of the oropharynx is warranted. Oral manifestations of HIV disease are common, including oropharyngeal candidiasis, oral hairy leukoplakia (OHL), gingivitis, herpes simplex virus (HSV), cytomegalovirus (CMV) disease, idiopathic aphthous ulcerations, and Kaposi's sarcoma (KS). Preventive dental care and oral health management are important aspects of HIV care.

Genital/Rectal: Due to increased incidence and severity of cervical dysplasia and carcinoma in HIV-infected women, Pap smears should be performed every 6–12 months. Current guidelines suggest annual Pap smears may be resumed after two normal smears at a six-month interval. A few experts argue that instead of a Pap smear (due to its insensitivity), routine colposcopy should be performed. This has not been shown to be cost-effective and has not, therefore, become the standard of care. Other gynecologic problems such as pelvic inflammatory disease (PID), vulvovaginal candidiasis, herpes simplex virus (HSV), and human papilloma virus (HPV) are also seen with increased frequency in HIV-infected women.

Men and women with a history of receptive anal intercourse or perianal human papilloma virus (HPV) infection are at increased risk for anorectal cancers and should undergo rectal examination every 6–12 months. HSV, condylomata, fistulas/fissures, and hemorrhoids are other common perianal pathologies. External genitalia should be examined for rashes, lesions, or discharge.

Other important areas in the physical exam include:

Lymph node exam. Examination of the cervical, supraclavicular, axillary, epitrochlear, and inguinal nodes should be regularly done. Development of newly enlarged (especially unilateral) lymphadenopathy warrants evaluation, as it may indicate the presence of lymphoma, Kaposi's sarcoma, TB, Mycobacterium avium complex (MAC) disease, or other serious



infections. Many individuals will have diffuse, persistent generalized lymphadenopathy (PGL) during early HIV infection. However, as the immune system becomes more dysfunctional, lymphadenopathy will commonly diminish or resolve.

Funduscopy exam. CMV retinitis is the most common serious ocular manifestation in HIV-infected individuals. It eventually occurs in 15-46% of clients with an AIDS diagnosis and can lead to blindness. It generally does not occur in clients with a CD4+T cell count >100 cells/mm³, and in the absence of visual complaint, routine funduscopy exam for these

clients is probably not necessary. Clients with a CD4+T count <100 cells/mm³ should be seen by an ophthalmologist every three to six months for screening and early detection of CMV. In the absence of hemorrhage, the retinal exudates of early CMV can be confused with the cotton wool spots of HIV retinopathy. Patients should be taught to immediately report persistent visual changes.

HIV retinopathy, a microvascular disorder, is the most common retinal manifestation of HIV disease. It may be diagnosed in 70% of advanced HIV disease cases, about 40% of cases of early symptomatic illness, and even in 1% of cases

Guidelines for Physical Exam Activities with HIV-Infected Clients

Exam area	Initial/ baseline	Every visit	Every 6-12 months	Other
Vital signs	✓	✓		
Weight	✓	✓		
Skin	✓	✓		
Oropharynx	✓	✓	by dentist	
Lymph nodes	✓	✓		
Funduscopy	✓	after CD4+T count <50 cells/mm ³		Ideally, every 3- 6 months by oph- thalmologist once CD4+T count <100 cells/mm ³
Cardiopulmonary	✓			
Abdominal	✓			
Genitourinary	✓	Pap for women		
Rectal	✓	history of anal intercourse, HPV		
Neurologic	✓			Peripheral nerve exam when initi- ating ddI, ddC, d4T, or 3TC

of asymptomatic HIV infection. It is a benign condition without visual effect, but it is an indicator of disease progression. It does not require treatment. Other less common ocular manifestations of HIV infection include infections with herpes simplex virus (HSV) and varicella zoster virus (VZV). Kaposi's sarcoma can also cause ocular signs. A client with any abnormal findings on funduscopic exam or any significant visual complaints should be referred to an experienced ophthalmologist for full evaluation.

Neurological exam. The neurologic manifestations of HIV infection are abundant. A good baseline neurologic exam can be of great benefit, both to detect current disease and as a basis for comparison when a client presents with new neurologic complaints. HIV infection can compromise mental, sensory, and motor function.

Peripheral neuropathy is seen frequently in HIV infection. It may be secondary to HIV itself in late-stage disease, or as a side effect of antiretroviral therapy. The most likely antiretroviral medication causes are ddI, ddC, d4T, and 3TC. A repeat exam to look for subtle changes of peripheral neuropathy may be warranted when initiating or continuing therapy with one of the above agents, as is ongoing monitoring for the emergence or progression of symptoms. New focal neurologic deficits are most likely secondary to primary CNS or metastatic lymphoma, toxoplasmosis, or progressive multifocal leukoencephalopathy (PML), though numerous other CNS processes are possible. Cryptococcal meningitis may present with severe headache but without focal

findings. Vacuolar myelopathy causes spasticity, gait disorders, and loss of bowel and bladder control.

In late-stage disease, autonomic neuropathy can also cause loss of bowel and bladder control, as well as orthostatic hypotension. Because of the high incidence of HIV dementia, some clinicians recommend baseline mental status exams. Generally, these types of in-office exams are too crude to detect the subtle changes of early dementia, and they are unnecessary in detecting more advanced, obvious dementia. Occasionally, sophisticated neuropsychiatric testing is warranted; e.g., when the clinician is having difficulty distinguishing between depression and dementia as a cause of mental status changes. Dementia and delirium may also be difficult to distinguish.

Cardiopulmonary and abdominal exams. Although pulmonary and gastrointestinal manifestations of HIV infection are numerous, the physical exam of these organ systems is frequently unrevealing or nonspecific.

Lung auscultation in *Pneumocystis carinii* pneumonia (PCP) is usually normal, although dry crackles may occasionally be heard. Symptoms (chronic nonproductive cough, progressive shortness of breath) are more often indicators of PCP. Though cardiac manifestations of HIV infection are less common, cardiomyopathy and endocarditis do occur, especially in injection drug users or clients with permanent indwelling catheters. Splenomegaly is common and may be due either to HIV itself or to a wide range of opportunistic infections or neoplastic processes.



What clinical manifestations of HIV are specific to women?

A number of HIV-associated gynecologic problems are specific to women. Many of these conditions also occur in uninfected women but with less frequency or severity. Vaginal yeast infections are particularly persistent and difficult to treat. Other vaginal infections may occur more often and with greater severity. These include bacterial vaginosis and common STDs such as gonorrhea, chlamydia, and trichomoniasis. Severe herpes simplex virus (HSV) ulcerations may be less responsive to standard acyclovir therapy. Idiopathic genital ulcers are a unique manifestation of HIV disease. These are lesions that show no evidence of an infectious organism or cancerous cells, and that may be confused with HSV. Human papilloma virus (HPV) infection is implicated in cervical cancer. An associated condition, cervical intraepithelial neoplasm (CIN), is more common, more severe, and recurs more often in HIV-infected women. Cervical carcinoma is more aggressive among HIV-infected women. Pelvic inflammatory disease (PID) is more common and aggressive. Menstrual irregularities are frequently reported.

After doing the history and physical, what initial laboratory tests are indicated for each newly identified HIV-infected client?

CBC WITH DIFFERENTIAL AND PLATELET COUNT

Anemia, thrombocytopenia, and leukopenia are seen at every stage of HIV infection and can be due to drug effect, opportunistic infection (OI), neoplasm, autoimmune processes,

Case Study: Michael



You contact Michael and report that his blood work came back and ask him to return to the clinic the next day to discuss these results.

When you meet with him, you tell him that his CD4 + T cell count is 176 cells/mm³ and his viral load is 65800/mL. You also tell him that you called an HIV specialist in the city and that her recommendation is to prescribe antiretroviral therapy. You discuss the possible treatment options, and Michael agrees to one. Michael is hopeful that he will start feeling better soon.

bleeding, or HIV itself. Frequent monitoring of the CBC is crucial.

CD4+T CELL COUNT

The CD4+T cell count is the best marker for immunodeficiency associated with HIV infection. As such, the CD4+T cell count is used in making decisions about antiretroviral and prophylactic drug therapy and in evaluating specific complaints relative to risk for particular opportunistic infections. For example, *Mycobacterium avium* complex (MAC) and cytomegalovirus (CMV) infection are rare in clients with CD4+T cell counts over 50 cells/mm³. PCP and cryptococcosis are unusual in clients with CD4+T cell counts over 200 cells/mm³. The CD4+T cell count is not a perfect surrogate marker of immunodeficiency and factors such as the client's clinical status must always be taken into account.

The CD4+T cell count reflects the number of CD4+T cells per cubic millimeter of blood. It does not indicate the total number of CD4+T cells in the body. Millions of new CD4+T cells are produced daily. CD4+T cells

are cleared by normal body processes, as well as by the virus. Thus, the CD4+T cell count is a marker of the net level of cells represented per mm³. The absolute CD4+T cell count can vary greatly in the same individual depending on what time of day the blood is drawn, the laboratory used, and the presence of acute illness or other factors such as alcohol binging. It is therefore necessary to use the same lab over time, draw blood at the same time of day, and avoid testing on days when the client is acutely ill or under abnormal stress. When the CD4+T cell count is being used to make important treatment decisions (e.g., initiating prophylaxis for opportunistic infections), it is advisable to draw two samples a few weeks apart.

HIV RNA ASSAY

Plasma HIV RNA determination has become an important marker in the evaluation and management of HIV disease. The HIV RNA assay measures the viral burden or viral load and is a quantitative measure of HIV in the blood. Important characteristics include the following:

- HIV viral detection techniques identify measurable viral RNA copies in the plasma of most HIV-infected individuals in all clinical stages of illness.
- Viral load can provide significant information about disease progression, when to initiate antiretroviral therapy, the degree of antiretroviral effect achieved, and the failure of a drug regimen.
- Plasma RNA levels fall dramatically following effective antiretroviral therapy.
- Determinations of quantitative HIV RNA

levels in plasma do not detect virus sequestered in lymphoid or other tissues.

- "Undetectable" levels of virus indicate a viral level below the limits of detection for the particular assay. The standard RT-PCR assay has limits of detection of <500 copies of HIV RNA/mL of plasma. In assessing response to antiretroviral therapy, an "ultra sensitive" assay is often used with a limit of detection of <50 copies of HIV RNA/mL.
- Patients should be informed that an undetectable viral load does not mean the virus has been eradicated, that they can still transmit HIV to others, and that continuing therapy is important to keep the level of virus in check.

Viral replication is rapid and continuous from the time of infection; billions of copies are produced and destroyed daily. Viral load is an indication of the activity of viral replication, not the total of virus in the body. A stable level or "set point" occurs after primary infection and remains relatively constant in the absence

Case Study: Linda



Linda's physical exam is within normal limits. Her CD4+T cell count is 624 cells/mm³ and her viral load is 6200 copies/mL. You ask Linda if she has - thought about getting treatment for HIV. She says, "I just can't think about it yet." You tell her that you have talked to an HIV specialist in town. The specialist thinks that Linda's lab work is "not too bad." He feels she doesn't have to start treatment right away, but that she should consider it in the future. Linda says, "Oh good."

Guidelines for Laboratory Evaluation of the HIV-infected Client

	Baseline	Every 1-3 months	Annually
CBC	✓	✓	
CD4+T Cell Count	✓	✓	
HIV Viral Load	✓	✓	
Chemistry Panel	✓	✓	
RPR/VDRL	✓		✓
PPD	✓		✓ (high risk client)
HBV/HCV serologies	✓		✓ (high risk client)
Toxoplasma antibody	✓		

of disease progression, therapeutic effect, or other disturbances.

Viral load and CD4+T cell counts are distinct markers that provide different information. Viral load can predict disease progression and long term clinical outcome; CD4+T cell measurements can indicate damage sustained by the immune system (loss of T-cells) and short-term risk for developing opportunistic infections. Each is an independent predictor of clinical outcome; used in combination, they give a more complete indication of clinical status, treatment response, and prognosis. Generally, high viral load indicates higher risk for disease progression and lower levels, less risk.

A baseline determination of viral burden is recommended, with subsequent measurements every three to four months, in conjunction with CD4+T cell monitoring and clinical evaluation such as history and physical exam. Viral load is also a factor in determining the appropriate point to initiate antiretroviral therapy - and in monitoring the effectiveness of therapeutic regimens. It is likely that guidelines

will continue to be revised as the implications of viral measurement evolve and interpretation and use of the test become better understood.

Three commercially available assays are used to determine viral burden: branched chain DNA (bDNA), quantitative polymerase chain reaction (RT-PCR), and nucleic acid sequence-based amplification (NASBA). While correlation between plasma HIV RNA levels is high between methods, each is a distinct technique with different reference standards. For example, 10,000 copies/mL by bDNA corresponds to 20,000 copies/mL with RT-PCR. Sequential measurements should be obtained by the same method and laboratory. RT-PCR is a widely-used, FDA-approved method. Amplicor, a division of Roche Laboratories, is a reference laboratory that provides this assay. FDA approval has implications for reimbursement by insurance companies and state and federal programs such as Medicaid and Medicare. Reference laboratories can be contacted directly for information about collection, storage, processing, and interpretation. As with CD4 testing, it is advisable to use the same reference laboratory over time.

LIVER FUNCTION TESTS (LFTs)

Liver function tests (LFTs) may be abnormal secondary to viral hepatitis, alcohol abuse, drug effect, opportunistic infection (OI), or neoplasm.

CREATININE

Drug effects and/or HIV nephropathy can cause elevations in creatinine levels.

PPD

HIV-infected people are at increased risk of developing active TB. A PPD showing 5mm or more of induration should be considered positive and, once active TB is ruled out, should be treated with INH and pyridoxine prophylaxis for nine months. Alternate therapies may be considered as needed (Bartlett & Gallant, 2000). Anergy that occurs as a part of HIV-induced immunodeficiency may lead to a negative PPD. INH prophylaxis could be considered if there are other risk factors for TB (CDC, 1998c).

TITER FOR TOXOPLASMA IgG ANTIBODY

This IgG antibody test is frequently recommended for baseline screening. Knowledge of positive toxoplasma antibody status will not have any effect on management until the CD4+T cell count drops to 200 cells/mm³, at which time prophylaxis becomes a relevant consideration. If CNS toxoplasmosis is being considered as a diagnostic possibility, toxoplasma antibody results can be obtained quickly from most labs.

The most effective prophylaxis against toxoplasmosis is trimethoprim-sulfamethoxazole

(TMP/SMX). Since this is the preferred prophylactic agent against PCP and is generally administered when the CD4+T cell count goes below 200 cells/mm³, it can provide protection against both PCP and toxoplasmosis.

Immunizations in HIV Infection -

Vaccines to consider:

- *Pneumococcal*
- *Influenza*
- *Hepatitis B*

Vaccines that are safe if needed:

- *Hemophilus*
- *Inactivated typhoid*
- *Rabies*
- *Hepatitis A*

Vaccines that are safe if client is not up-to-date:

- *Tetanus toxoid*
- *Inactivated polio*
- *MMR*

Contraindicated vaccines:

- *BCG*
- *VZV*
- *Oral polio*
- *Oral typhoid*
- *Yellow fever*

HEPATITIS B AND C SEROLOGIES

HIV, HBV, and HCV have similar epidemiologies. Hepatitis B is common in HIV-infected IDUs and men who have sex with men. Hepatitis C is more common in HIV-infected IDUs, and is more common than Hepatitis B. Ordering serologies for HBV and HCV should be based on individual client history of risk behavior, current sexual practices, baseline liver function test results, and hepatitis B immunization history. For example, a client with normal LFTs and no history of IDU,

who received the hepatitis B vaccine series two years ago, would not require screening for either HBV or HCV. Some clinicians advocate performing HBV and HCV serologies on all HIV-infected clients as a baseline.

RPR or VDRL

Syphilis testing is important because syphilis can be complicated in the HIV-infected individual; there have been reports of treatment failure and rapid progression of syphilis in HIV-infected individuals. If the initial test or screening is positive, confirm with FTA, treat as appropriate, and repeat testing annually.

What additional immunizations are indicated?

Recommended immunizations include the pneumococcal vaccine, especially for those clients whose CD4+T cell counts are <200 cells/mm³, annual influenza vaccination, and the Hepatitis B vaccine for those who are non-immune. In addition, VZIG should be considered in susceptible persons following exposure to varicella or herpes zoster. MMR is recommended for non-immune persons who are not severely immunosuppressed (CD4+T cell counts ≥ 200 cells/mm³). Hepatitis A (HAV) vaccine is recommended for clients with chronic Hepatitis C (HCV) and/or chronic Hepatitis B (HBV) infection.

Vaccination commonly stimulates a transient spike in detectable HIV RNA levels. It is currently believed that this vaccine-induced viremia is less risky clinically than the potential of getting one of these infections. When immunizations are given, live vaccines other

than the MMR are never used and clients should be immunized early in the course of infection while the immune system is still viable. Refer to the CDC guidelines on preventing opportunistic infections (CDC, 1999).

When would a chest x-ray be indicated?

A chest X-ray should be performed if the client has any pulmonary complaint, a history of TB exposure (including high-risk populations and circumstances associated with high risk such as homelessness, migrant/seasonal farmwork, other living conditions such as overcrowding, or history of residence or travel in an endemic area), or PPD ≥ 5 mm induration and unexplained fever. Some clinicians would also recommend chest X-ray in the presence of anergy on skin test or very low CD4+T cell counts.

Case Study: Linda



During Linda's work up you determined that she was not pregnant.

Why was it important to inquire whether Linda was pregnant?

Pregnancy has not been shown to have a detrimental effect on the clinical progression of HIV disease when compared to the expected effects of time and stage of disease. Early studies established that zidovudine therapy for the mother during the last two trimesters of pregnancy, during delivery, and for the new-

born postpartum reduces the risk of perinatal HIV infection by approximately two-thirds. Further studies have demonstrated that perinatal care that includes appropriate ART for the woman's HIV infection, Cesarean section in some cases, and follow up care for the infant can reduce the vertical transmission risk to less than 2%. Therefore, it is important that primary care providers offer HIV testing to all pregnant women and to encourage women who are at risk for HIV to determine if they are pregnant. Current guidelines for the prevention of perinatal infection or HIV-experienced clinicians should be consulted when treating HIV-infected pregnant women (CDC, 2001a).

What are the important points to present when counseling HIV-infected pregnant women and women of child-bearing age?

Due to power imbalances within some relationships and the real or perceived threat of violence from a partner, some women feel they have little or no control over sexual acts. These women may feel they are not safe in asking for what they need or want. This has implications for HIV prevention counseling for women generally and has specific implications for counseling pregnant women or HIV-infected women. Again, it is critical to establish a trusting relationship with the client to be able to evaluate such considerations.

When counseling an infected woman or the female partner of an infected man, discuss the risk of transmitting HIV infection to an unborn or nursing child. As mentioned earlier, HIV may be transmitted from infected women to

their offspring by three routes: to the fetus in utero through the maternal circulation, to the infant during labor and delivery by contact with or ingestion of fluids or blood, and to the nursing infant through breast milk. Avoidance of pregnancy is the only certain way to prevent HIV transmission to offspring. If a seropositive woman becomes pregnant, she will have a number of options to consider and some difficult decisions to make. She should receive supportive counseling with clear descriptions of current treatment recommendations. HIV-infected women basically have three options: to continue the pregnancy using antiretroviral therapy, to continue the pregnancy without antiretroviral therapy, or to terminate the pregnancy. It is a difficult decision that is best made with accurate information and the support of her family of choice. The health care provider's role in this process is to provide information, resources, support for the woman's final decision, and referrals as needed.

What are the early signs and symptoms of HIV infection?

Early signs and symptoms of HIV infection can be recognized during the initial work-up of the HIV-infected individual or when an undiagnosed individual presents with medical problems potentially related to HIV infection. In the latter case, counseling and testing are indicated. These early signs and symptoms may be oral, dermatological, lymphatic, or systemic. These areas should be periodically assessed in the ongoing management of HIV-infected individuals.



Signs and symptoms that may indicate HIV infection include: herpes zoster, thrush, recurrent vaginal candidiasis, cervical dysplasia, cervical cancer, persistent generalized lymphadenopathy (PGL), thrombocytopenia, fevers, night sweats, weight loss, and minor infections. These are distinct from AIDS-defining conditions. Some signs may first appear in the oral cavity, such as oral candidiasis, oral hairy leukoplakia (OHL), or oral Kaposi's sarcoma (KS). OHL is an example of a prognostic indicator for disease progression, signaling an advancing level of immune compromise. KS indicates progression conferring a diagnosis of AIDS according to the surveillance case definition of the CDC.

Case Study: Linda



Linda tells you that she has been feeling really good. She says that none of her friends can believe she has HIV. You reiterate that HIV infection involves a spectrum of events and that she

may remain completely asymptomatic for many years. In time, however, she should expect signs and symptoms to appear.

What are the major continuing and comprehensive care considerations for clients with HIV?

Remember that the initial response to a diagnosis of HIV infection is difficult to predict and likely to leave a client in emotional turmoil for a period of several months or longer. Even when a client seems to cope well at first, s/he should continue to be monitored closely.

This provides support to the client and helps to establish client/provider rapport. Most clients

will eventually come to terms with having HIV, although they may go through a number of crises during the initial adjustment period.

HIV infection is a chronic, progressive disease that may require alternating periods of acute and long-term care. During the course of the disease, there will be times when minimal or no care is required. Health care requirements can change rapidly, however, making long-term prediction of needs difficult.

HIV is a multi-system disease that can affect every aspect of the client's physical, mental, and social health. When possible, a multi-disciplinary team approach facilitates comprehensive care. The team may include, as an example, a primary care provider (physician, nurse practitioner, physician assistant), a social worker or case manager, a nurse, and the client. Other team members can be added as the need arises. Additional team members may include oral health care providers, medical and nursing specialists, dietitians, mental health workers, substance use counselors, and members of the client's family. Complex management of HIV infection and opportunistic infections usually requires additional expertise through consultation and referral. Case management coordinates services and is an important component of care. The client is the most important team member and should be educated to make informed choices throughout the course of the illness. If HIV-infected clients are not included in treatment plans, they may be less likely to adhere to recommendations.

Study Questions, Part III

Determine whether each statement is true or false:

1. *Enzyme-linked immunoassay (ELISA/EIA) serologic test, repeated if positive, and confirmed by Western Blot is a proper HIV antibody testing sequence.*
2. *Antibody tests, such as the EIA, can determine HIV infection within 48 hours of exposure to HIV.*
3. *Post-test counseling is not necessary for clients whose test results are negative.*
4. *CD4+T cell counts help to define immune function and are useful prognostic indicators.*
5. *Symptoms of acute retroviral syndrome should be observed carefully in case they progress and require treatment.*
6. *Confidentiality about HIV test results is a major concern for Native American clients.*
7. *A client who has been newly diagnosed with HIV infection would benefit from a complete history and physical including assessments of mental health status and vaccine profile.*
8. *HIV-infected clients are at no greater risk of developing tuberculosis than others who live in the same community.*
9. *Viral load (HIV RNA) measures can predict disease progression and long term outcome in HIV infection.*
10. *HIV-infected women who become pregnant should be counseled to prevent the possibility of transmitting HIV to an infant by terminating the pregnancy.*

Answers and discussion can be found in the Resource section.



SECTION IV HEALTH PROMOTION

Learning objectives. By the completion of the Health Promotion section, the learner will be able to:

- Describe primary care management considerations for HIV-infected clients
- Discuss considerations for antiretroviral therapy
- Identify common opportunistic infections and the appropriate time for prophylaxis
- Discuss the components of wellness counseling -

What strategy should the primary care practitioner develop for following the HIV-infected client?

Primary Care Management Issues in HIV Infection. The HIV epidemic presents challenges and opportunities for primary care practitioners. HIV is a chronic infection with complex and frequently changing care considerations. Like most chronic conditions, health care needs are affected by social, economic, and mental health conditions. Education and prevention are key factors in the continuum of care.

Primary care clinicians have major responsibilities in the HIV epidemic: prevention education, risk assessment, early detection, follow-up care after testing, and clinical care after a diagnosis. Prevention and risk assessment are routine tasks completed by most clinicians as they screen clients for new or developing problems related to, among other things, sexual and drug use activities. Diagnosing HIV infection, however,

brings the need for consultation and additional resources for all but the most experienced HIV-care clinicians. All clinicians need a basic level of understanding about HIV infection in order to enhance their clinical skills and to make informed decisions about care and referral. Knowing where to go and what to ask enhances the ability to manage HIV infection as an element of primary care.

Case Study: Linda



Knowing that Linda will likely remain asymptomatic for some time, you consider how you as the practitioner can best manage her care and prepare her to assume an active role in promoting her own health status.

What can you tell Linda about the time course of events she can expect?

An important goal of this discussion with the client is to present a brief overview of the natural history of HIV infection and the purposes of primary care. Clients might be told that HIV infection can be viewed as a chronic disease, and that therapies are available to slow the progress of the infection and to prevent and treat many serious complications. Clients should know that certain laboratory tests and portions of the physical exam will be repeated periodically in order to quickly identify and address any complications or changes in immune status. Clients also might be told that the provider will stay abreast of HIV treatment developments and that new treatment modalities will be offered as soon as they become available.



When a client is diagnosed with HIV, a number of different responses may occur. Denial, fear, anger, and depression are common initial responses. Self-image, daily routine, dreams and expectations, friendships, family life, social roles, and sexuality may be deeply affected. Social attitudes toward HIV and AIDS may bring up further issues of guilt and shame. A client may begin a bereavement process as soon as HIV is diagnosed.

For many clients, a close, trusting, and consistent relationship with a health care provider plays a vital role in navigating this difficult, and sometimes painful, journey. A practitioner who helps guide the client's health care decisions may serve, at various times, as advocate, interpreter, counselor, advisor, and coach. In a sense, the provider becomes a mediator between clients and the virus, enabling clients to gain some understanding of what the virus is doing, while working with clients to manage disease progression. Ideally, the provider-client relationship will develop into a functioning partnership, with the provider contributing expertise and clinical experience and the client feeling assured that important decisions reflect personal needs and values. Through this kind of relationship, clients may begin to feel they have regained some measure of control. Such relationships are built slowly and painstakingly. Some of the most important steps occur in the very first clinical encounters following diagnosis.

When is antiretroviral therapy (ART) indicated?

Antiretroviral therapy is an important component of the management of HIV infection.

Guidelines in the Primary Care of the HIV-Infected Client

- record baseline observations
- encourage healthy habits
- prevent further spread of HIV infection
- assist with arranging social and emotional support
- discuss ethical and legal questions about disability and death
- administer prophylaxis against certain infections
- monitor and manage troublesome symptoms: diarrhea, weight loss, minor infections, fatigue, pain

With Appropriate Consultation and Referral as Necessary:

- initiate and manage antiretroviral therapy
- diagnose and treat opportunistic diseases
- monitor and manage mental health and psychiatric manifestations

ART can slow progression to advanced disease. - Recent developments include new classes of drugs and combination therapies that can dramatically reduce the amount of circulating virus in the blood, in some cases to levels below detection by laboratory tests. As more therapeutic agents and clinical trial results become available, decisions about ART become increasingly complex. At the same time, the new therapies offer optimism for improved quality and duration of life.

Decisions regarding the initiation of or changes in ART are guided by monitoring the laboratory parameters of plasma HIV RNA (viral load) and CD4+T cell count, as well as the clinical condition of the client. The use of these tests gives important information about the virologic and immunologic status of the client and the risk of disease progression. Considerations for initiating ART outlined in this section are based on the most currently available guidelines (CDC,



2001b). The guidelines will continue to be revised as new treatment information becomes available. The inclusion in this section of excerpts from the Panel's Principles of Therapy provides a basic overview and is not intended to serve as sufficient information to provide a basis for treatment decisions.

ACUTE HIV INFECTION

- Current guidelines state that many experts would recommend ART for all clients who demonstrate laboratory evidence of acute HIV infection (seroconversion illness, retroviral syndrome). Such evidence includes detectable HIV RNA in plasma using sensitive RT-PCR or bDNA assays together with negative or indeterminate HIV antibody test results (indicating that the client is in the "window period" before seroconversion). Individuals may or may not have symptoms of the acute retroviral syndrome.
- Apart from these clients, many experts also consider ART for clients in whom seroconversion is documented to have occurred within the previous six months.
- The goal of ART in this period is the suppression of viral replication to levels below detectable limits and to set the viral load at as low a level as possible. Drawbacks include the aggressiveness of the regimens, including drug toxicity, large pill burden, expensive drugs, and the possibility of developing drug resistance that may limit future options.

ASYMPTOMATIC INFECTION

- ART provides clinical benefit in HIV-infected individuals with advanced HIV

Case Study: Michael



You contact Michael and report that his blood work came back and ask him to return to the clinic the next day to discuss these results.

When you meet with him, you tell him that his CD4 + T cell count is 176 cells/mm³ and his viral load is 65,800/mL. Michael responds, "So that's why my mouth is so bad." You agree and tell him that his CD4 + T cell count is low enough to explain why his mouth has not responded completely to the medication.

"So what do we do now?" Michael asks.

You tell Michael that you have talked to an HIV specialist in the city and that her recommendation is to prescribe antiretroviral therapy. This should help to raise his CD4 + T cell count while it lowers his viral load. You discuss various ART combinations, their side effects, and pill schedules with Michael. Michael asks several questions before selecting a regimen that he thinks will fit into his life.

You then say, "The HIV specialist also recommends that I put you on a medication to prevent PCP."

Michael says, "What's that?" You explain that PCP is a pneumonia caused by an organism that normally wouldn't affect him. With his CD4+T cell count so low, however, he is at risk for this potentially deadly infection. Michael agrees to the prophylactic medication.

Michael leaves, hopeful that the decisions he has made will help him.

disease and immunosuppression. Although there is theoretical benefit to treatment for clients with CD4+T cell counts greater than 500 cells/mm³, no long-term clinical benefit of treatment has yet been demonstrated.

- A major dilemma confronting clients and

practitioners is that the most potent ART regimens currently available are medically complex, associated with a number of drug interactions, and pose a substantial challenge for adherence. Thus, decisions regarding treatment of asymptomatic, chronically-infected individuals must balance a number of competing factors that influence risk and benefit.

- Potential benefits include: the real or potential goals of maximally suppressing viral replication, preserving immune function, prolonging health and life, decreasing the risk of drug resistance due to early suppression of viral replication with potent therapy, and decreasing drug toxicity by treating a healthier client.
- Potential risks include: adverse effects of the drugs on quality of life, including the inconvenience of maximally suppressive regimens, developing drug resistance despite early initiation of therapy, limiting future treatment options due to cycling the client through the available drugs during early disease, risk of transmission of virus resistant to ART agents, the unknown durability of effect of the currently available therapies, and the long-term toxicity of some drugs, including metabolic complications.
- The decision to begin ART in the asymptomatic client is complex and must be made in the setting of sufficient expertise and careful client counseling and education, with the consideration of numerous factors in the client's life. The willingness of the client to initiate therapy is critical. Readiness to begin therapy is an important

component of the client's ability to adhere to the treatment regimen and strict adherence is required to obtain maximum benefit and avoid development of drug resistance.

- Current guidelines state that any client with less than 350 CD4 cells/mm³ or greater than 30,000 copies of HIV RNA/mL of plasma by bDNA (55,000 copies/mL by RT-PCR) would be a candidate for therapy.
- Previous guidelines suggested that any client with less than 500 CD4 cells/mm³ or greater than 10,000 copies of HIV RNA/mL of plasma by bDNA (20,000 copies/mL by RT-PCR) would be a candidate for therapy, and many experts prefer to continue using these levels when discussing therapy with their clients.

Goals of Antiretroviral Therapy

- Maximal and durable suppression of HIV replication
- Restoration and/or preservation of immunologic function
- Improvement in the quality of life
- Reduction of HIV-related morbidity and mortality (CDC, 2001b)

SYMPTOMATIC DISEASE

- Symptomatic disease includes signs and symptoms of HIV disease (weight loss, thrush, or unexplained fever for ≥ 2 weeks), including CDC-defined AIDS-indicator diseases.
- All clients in this category are candidates for therapy.

CURRENTLY AVAILABLE ANTIRETROVIRAL DRUGS

Fifteen antiretroviral agents are now approved



for use in the United States, but a number are awaiting approval and more are in development. Antiretroviral drugs fall into three classes: nucleoside reverse transcriptase inhibitors (NRTIs), protease inhibitors (PIs), and non-nucleoside reverse transcriptase inhibitors (NNRTIs). Three formulations combine two or three drugs for ease of administration.

Nucleoside Reverse Transcriptase Inhibitors (NRTI) work at an early stage in viral replication. They block reverse transcriptase, an enzyme required for viral replication, by mimicking nucleosides in the growing DNA. This stops viral growth. NRTIs are the cornerstone of combination therapy. Currently available NRTIs are: abacavir (Ziagen[®]), didanosine (ddI, Videx[®]), lamivudine (3TC, Epivir[®]), stavudine (d4T, Zerit[®]), zalcitabine (ddC, HIVID[®]), and zidovudine (AZT, ZDV, Retrovir[®]).

Protease Inhibitors (PI) work against HIV in a late stage of the viral replication process by interfering with the protease enzyme's role in making new copies of HIV inside infected cells, thus producing viruses that are incapable of infecting new cells. The PIs, when used in combination with other antiretroviral agents, offer potent anti-HIV activity. Clinicians prescribing PIs are cautioned to use full therapeutic dosages to prevent resistance development. Currently available PIs are: amprenavir (Agenerase[®]), indinavir (Crixivan[®]), nelfinavir (Viracept[®]), ritonavir (Norvir[®]), and saquinavir (in two formulations: Fortovase[®] and Invirase[®]).

Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI) work similarly to the

NRTIs, but block reverse transcriptase directly. Resistance develops quickly to NNRTIs when used alone, so it is important that they be used in maximally suppressive combination therapies. NNRTIs are often used in combination with NRTIs as “protease sparing” therapies. This tactic decreases the client’s exposure to PI-associated side effects and drug interactions while preventing resistance development to the PIs, a powerful group of agents that may be needed at a later date in the client’s therapy. Currently available NNRTIs are: delavirdine (Rescriptor[®]), efavirenz (Sustiva[®]), and nevirapine (Viramune[®]).

Combination antiretroviral agents were developed to help clients adhere to difficult medication regimens by decreasing the number of pills (pill burden) that must be taken every day. Two of the currently available agents are combinations of NRTIs: Combivir[®] (zidovudine plus lamivudine) and Trizivir[®] (zidovudine plus lamivudine plus abacavir). The other preparation is a combination of two PIs: Kaletra[®] (lopinavir and ritonavir).

Other Antiretroviral Therapies. The list of antiretroviral therapies continues to grow as clinical trials provide new options for treatment. Information on HIV/AIDS experimental treatments and trials can be obtained from amfAR (1-800-39-amfAR or <http://www.amfar.org>), or the AIDS clinical trials groups (1-800-874-2572). Many pharmaceutical manufacturers offer reimbursement assistance for individuals who cannot afford medications. Clinicians and clients can find out about eligibility criteria by calling pharmaceutical company assistance lines or MedExpress[™] at 1-800-808-8060.

ANTIRETROVIRAL TREATMENT REGIMENS

Combination therapy with at least three antiretroviral drugs is currently recommended for clients starting treatment. Although ALL clients are ultimately candidates for combination therapy, the complex decision of when and how to prescribe and enhance adherence to the regimens is left to the judgment of the clinician and the client. The combination of two NRTIs and a PI for initial therapy is strongly supported by clinical end point research data, but an acceptable alternative is two NRTIs and an NNRTI.

Unfortunately, therapy errors including inadequate dosing, inappropriate prescription changes, and non-adherence to treatment regimens, can lead to the development of drug resistance. The complex and rapidly evolving nature of ART and the serious negative consequences of sub-optimal clinical management require that HIV-inexperienced providers seek appropriate consultative support and/or referral for maximum client benefit. These issues are especially challenging for rural providers who provide care for HIV-infected individuals who are unable to travel to geographically distant HIV-specialty treatment centers. Excellent resources (such as the AIDS Education and Training Centers listed in the appendices) exist for the development of consultative networks and/or referral support to allow clients to receive the highest possible quality of care, in their home communities, when possible.

Success of ART is measured predominantly via plasma HIV RNA levels. Therapy is considered to be successful in a setting of a one-log (10-fold) reduction in the viral load within the first eight

Case Study: Michael



Michael returns to the clinic for a follow-up appointment after two months of therapy. He tells you that his mouth is much better and that he's feeling "OK."

He describes nausea and diarrhea from the antiretroviral regimen he's been taking. His aunt gave him some traditional medicine in the form of a tea for his diarrhea. He feels that it has reduced some of the bloating and abdominal cramping he was experiencing from the diarrhea. You discuss the traditional medicine with Michael and determine that it should not interfere with his ART medications. You discuss Michael's ability to adhere to his treatment plan. He tells you that he has only missed two doses in the past three months. You encourage him to continue this pattern and order lab tests.

Michael's blood work comes back a week later. His CD4+T cell count has increased to 272 cells/mm³ and his viral load is now 5080 copies/mL. You tell Michael that the HIV specialist suggests that he continue on the same treatment protocol.

weeks of therapy and a non-detectable viral load (<50 copies/mL) by four to six months after treatment initiation. When success is not achieved during this time frame, the clinician should consider viral resistance and client non-adherence as possibly contributing to the problem.

Not all clients can tolerate or adhere to ART. And, unfortunately, some may never achieve an undetectable viral load with combination therapy. Partial viral suppression, i.e. more than a one-half log reduction in viral load, has been shown to provide clinical benefit, although partial suppression supports the development of drug resistance that can lead to treatment failure and disease progression. Because of this,



monotherapy and dual therapy are generally not recommended. Factors that contribute to resistance include client non-adherence to treatment protocols, inappropriate prescriptions, treatment with drugs the patient has previously been exposed to (especially in incompletely suppressive regimens), late stage disease with high viral loads and different viral strains, and drug interactions that reduce ART efficacy.

Clients on failing drug regimens should be placed on an alternate drug regimen guided by a thorough drug treatment history and, in some cases, resistance testing. Discussions with the client should include an honest appraisal of adherence to the medication regimen and new treatment options. Determining an appropriate new treatment combination can be difficult for many reasons, not the least of which is the risk of causing additional drug resistance. While the guidelines can be helpful, in all cases, consultation with a specialist is recommended (CDC, 2001b).

MEDICATION ADHERENCE

Adherence to treatment regimens is critical to successful therapy. Incomplete adherence can lead to treatment failure, drug resistance, and/or the risk for transmission of drug-resistant virus. Client acceptance is a key to medication adherence, and it is important to allow the client time to make the decision to initiate therapy. Further education and “trial runs” (i.e. providing a placebo course of medications) can help clients determine their abilities to adhere to the sometimes difficult treatment regimens.

Medication adherence can be a challenge

for even the most motivated clients. While 100% adherence is optimal, missed dosages should be an expected part of treatment. Clinical studies indicate that best results are achieved with adherence rates of 90% or better, a feat that is rarely achieved. HIV-infected clients who choose to initiate ART will need continuous support to maintain therapy. Judgmental and punitive approaches to less-than-optimal adherence should be avoided as they are likely to decrease the client’s willingness to share accurate information with the clinician. Adherence interventions should be individualized and consistent with the current treatment guidelines (see CDC, 2001b for additional information on improving adherence to ART).

Factors that Increase Medication Adherence

- *client and provider rapport*
- *client’s trust of provider*
- *frequent client-provider assessments to identify barriers to adherence and to solve problems*
- *provider ability to hear client’s honest disclosures of adherence problems without shaming or blaming*
- *client understanding of medications, side effects, treatment regimens, and support systems*
- *fewer medications/dosages per day*
- *fewer interactions with other medications*
- *fewer administration limitations (i.e. with or without food)*
- *client’s belief in and personal experience of treatment efficacy*
- *effective reminder systems individualized to the client*
- *fewer side effects/ability to tolerate side effects*

Primary Factor that Decreases Adherence

- *active use of alcohol and drugs*

METABOLIC COMPLICATIONS

Treatment with a combination of antiretroviral agents has dramatically improved the quality and quantity of life for many people infected with HIV. All of these medications, however, have side effects. Metabolic changes, an emerging and problematic syndrome for HIV-infected patients in treatment, can lead to increased blood lipid levels and the concomitant risk of coronary artery disease and stroke.

Over the past several years, an increased incidence of fat and glucose metabolism disorders has been described in HIV-infected clients. These disorders have been referred to collectively as HIV Lipodystrophy Syndrome. The syndrome consists of a constellation of problems including:

- fat redistribution and changes in body composition: loss of fat in the arms, legs, face, and buttocks, and an accumulation of fat in the belly, back of the neck, and the trunk, especially breast tissue in women
- insulin resistance and hyperglycemia
- lipid abnormalities: hypertriglyceridemia, hypercholesterolemia, and reduced levels of high-density lipoprotein (HDL)

The cause of these problems is not known, but several theories exist. In one, successful ART is thought to cause the unwanted side effects and there is, indeed, some data to support the association of PIs and some reverse transcriptase inhibitors with lipodystrophy. Another theory holds that when the viral load is decreased (through successful therapy), the immune system rebuilds itself and, in the process, alters

fat metabolism. Yet another theory blames the chronic nature of HIV disease which leads to insulin resistance and altered patterns of fat utilization. The cause could also be related to HIV disease itself (only now becoming obvious as people live longer with the disease), the treatments for the disease, or a combination of these events.

Over time, the prevalence of HIV-related metabolic problems is likely to approach 40-60%. While physical body changes are distressing to many clients (affecting the quality of life and even continued adherence), clinical issues with HIV Lipodystrophy Syndrome also require consideration. In non-HIV-infected populations, hyperlipidemia, truncal obesity, and insulin resistance are associated with increased rates of cardiovascular morbidity and mortality, and these may also be of concern for HIV-infected clients.

Further study is needed to provide guidelines for treatment of these disorders, but general implications for clinical practice include the following:

- Prior to the initiation of ART, clients should be counseled about potential body fat and metabolic changes. An emphasis should be placed on the benefit of ART to reduce viral loads and increased longevity despite the potential for metabolic alterations.
- All clients should have fasting glucose and lipid profiles done prior to beginning ART, especially when the regimen includes a PI. Profiles should be repeated within six to eight weeks of the initiation of therapy.

Clients currently on therapy should have fasting glucose and lipid profiles analyzed. Routine periodic assessments of these clinical parameters should be used to guide therapeutic decisions.

- When diabetes or hyperlipidemia occur in the setting of HIV treatment, therapy as indicated in non-HIV clinical settings should be considered and initiated with referral to endocrine and cardiac specialists as needed. Dietary and exercise regimens may be prescribed initially, but medications may be required. Oral anti-diabetic medications and insulin have been used for severe hyperglycemia and lipid and cholesterol lowering medications such as atorvastatin or gemfibrozil have been used to decrease lipid elevations.
- Protease-sparing regimens may diminish the risk of metabolic changes, but do not guarantee the elimination of risk. When altering treatment regimens seems advisable, the clinician and the client should consider the long-term implications of potential increases in viral loads and HIV disease progression.

Although Linda and Michael are currently healthy, for what diseases might they need prophylaxis, and when is this indicated?

Effective ART has decreased the incidence of opportunistic infection dramatically, but the need for prophylaxis still exists. A number of effective prevention strategies can protect clients from opportunistic infections due to the progressive immune dysfunction that is characteristic of HIV disease. CD4+T cell counts are

usually used as benchmarks for prescribing chemoprophylaxis for opportunistic infections. Particular infections generally appear at certain levels of immune compromise indirectly measured by declines in the CD4+T cell levels.

Although not included in the disease-specific recommendations, an important issue in the prophylaxis of opportunistic infections is whether to offer or continue prophylaxis on the basis of lowest CD4+T cell count or a more recent count that has increased as a result of ART. It is currently unknown whether such increases in CD4+T cell counts provide anti-infective protection comparable to clients whose counts never declined below the current level. Until data assessing these risks are available, most experts recommend that prophylaxis be initiated on the basis of the lowest CD4+T cell count.

An important issue addressed in the latest treatment recommendations is the discontinuation of prophylactic therapy in response to increases in CD4+T cell counts due to ART. While sufficient data have emerged to support the discontinuation of prophylaxis under some circumstances, other recommendations will not be made until further data have been evaluated. As with the initiation and maintenance of prophylaxis for opportunistic infections, consultation with HIV experts on the discontinuation of prophylaxis is strongly recommended.

The following information is based on the most recent guidelines. Consultation with HIV-experienced providers may be appropriate for the application of these guidelines (CDC, 1999).

MYCOBACTERIUM TUBERCULOSIS (TB)

- Any HIV-infected client with a PPD showing ≥ 5 mm induration should receive nine months of isoniazid (INH) 300 mg qd plus pyridoxine (B6) 50 mg qd as prophylaxis against active TB. Some clinicians believe that any HIV-infected client with a PPD showing ≥ 2 mm induration should receive INH prophylaxis.
- Anergic clients with chest x-rays showing evidence of latent disease should receive INH once active disease is excluded.
- Give strong consideration to the use of INH prophylaxis in anergic clients at high risk for TB exposure, i.e., homeless, migrant farm workers, prisoners, and those from endemic areas, such as Mexico and parts of Central and South America.
- There is no need for secondary prophylaxis against TB once active infection has been fully treated.

PNEUMOCYSTIS CARINII PNEUMONIA (PCP)

- Prophylaxis against PCP should be offered to anyone with a history of PCP, a CD4+T cell count < 200 cells/mm³, unexplained fevers for two weeks or more, or a history of oropharyngeal candidiasis.
- Without prophylaxis, the chance of developing PCP is 18% per year once CD4+T cell count is < 200 /mm³.
- Clients with CD4+T cell counts < 50 cells/mm³ are at high risk for developing PCP.
- The preferred prophylactic treatment for PCP is trimethoprim/sulfamethoxazole (TMP/SMX or Bactrim®), one double-strength tablet daily. TMP/SMX is both highly effective and inexpensive. Efficacy

of TMP/SMX is limited by a high incidence of intolerance, and the incidence of allergic reaction to TMP/SMX is high (15-20%). Some providers will initiate Bactrim using a desensitization protocol to lessen the likelihood of adverse reactions. A re-attempt at desensitization is also recommended in clients with previous sensitivity experience. One single-strength tablet/day is highly effective and may be better tolerated. Lower doses, e.g., one double-strength tablet 3x/week, are also effective. TMP/SMX also helps prevent serious bacterial infections and CNS toxoplasmosis.

- The second choice for PCP prophylaxis is Dapsone (DS), 100 mg orally every day. DS provides systemic protection, is inexpensive, and is at least as effective as aerosolized pentamidine. It is not as good as TMP/SMX. Because of the risk of hemolysis, G6PD level should be checked prior to initiation of DS therapy. In the absence of G6PD deficiency, DS can still cause hemolysis, so the CBC should be monitored every two weeks for a month, then every 2-3 months. Since DS is best absorbed at a low gastric pH, it should not be taken at the same time as ddI. ddI contains a buffer (antacid) to enhance its absorption, which raises pH.
- Aerosolized pentamidine, 300 mg monthly, using a Respirgard II® nebulizer is an accepted prophylactic regimen against PCP for clients who are intolerant of TMP/SMX and DS, although it is more expensive and less effective.
- Alternative PCP prophylaxis regimens,

including IV or IM pentamidine, - atovaquone (Mepron®), DS with - pyrimethamine or clindamycin with - pyrimethamine, should only be used if other regimens cannot be tolerated. -

- Recent studies indicate that primary prophylaxis for PCP can be safely discontinued in clients experiencing significant CD4+T cell count recovery (>200 CD4+T cells/mm³ for at least 3-6 months) following effective combination ART (Ledergerber et al., 2001).

***Mycobacterium avium* COMPLEX (MAC)**

- The incidence of disseminated MAC in clients with AIDS is 18-40% diagnosed ante-mortem and 50-60% in post-mortem studies.
- Disseminated MAC can cause debilitating systemic symptoms, including fever, weight loss, night sweats, and diarrhea. It can be difficult to diagnose and treat, requiring multiple-drug regimens.
- MAC disease almost never occurs with CD4+T cell counts >100 cells/mm³ and most commonly occur in clients with CD4+T cell counts <50 cells/mm³.
- Clients with cell counts <50 CD4+T cells/mm³ should receive chemoprophylaxis against MAC.
- Weekly azithromycin (1200 mg.), rifabutin (300 mg. daily) and a combination of the two were recently compared. Azithromycin, alone or in combination with rifabutin, was superior to rifabutin in reducing the rates of MAC by 50%.
- Rifabutin interacts with protease inhibitors and should usually not be used.

TOXOPLASMOIS (Toxo)

- The prevalence of latent toxoplasma infection measured by serology varies between geographic regions and is fairly low in the cool, dry climates of the Rocky Mountain and western plains states. However, 20-47% of AIDS clients with extremely low CD4+T cells counts (< 50 cells/mm³) who are seropositive for toxoplasma will eventually develop CNS toxoplasmosis.
- Prophylaxis against CNS toxoplasmosis should be strongly considered in clients who have a CD4+T cell count <100 cells/mm³ and a positive toxoplasma IgG antibody, indicating latent infection.
- The most effective regimen is trimethoprim/sulfamethoxazole (TMP/SMX), one double-strength tablet per day (the same regimen recommended for PCP prophylaxis).
- Dapsone plus pyrimethamine plus leucovorin also appears to be an effective regimen for prophylaxis of toxoplasma encephalitis; further study will help determine optimal dosing.
- Secondary prophylaxis is indicated for any client who has had CNS toxoplasmosis.

HERPES SIMPLEX VIRUS (HSV)

- Primary prophylaxis against HSV is not indicated because of the risk of development of acyclovir-resistant HSV.
- Secondary prophylaxis with oral acyclovir, 400 mg bid, is recommended for frequent, intolerable recurrences.
- HSV flares during suppressive therapy may indicate acyclovir resistance. Clinicians should advise clients that stopping suppressive therapy may result in an HSV flare.

Clients with HIV infection can do many things to maintain and improve health and to prevent opportunistic disease.

FUNGAL INFECTIONS

- Fungal infections generally become problematic at CD4+T cell counts <100 cells/mm³.
- Prophylaxis should be offered to clients with frequent, intolerable, recurrent candida infections or clients with a history of cryptococcosis, coccidiomycosis, or histoplasmosis.
- Primary prophylaxis for fungal infections is not recommended because of cost, possible drug interactions, and the development of resistant strains. Treatment of thrush should be initiated with topical agents first: for example, start with clotrimazole troches and escalate to fluconazole only when thrush becomes recalcitrant. Reserving fluconazole in this manner will decrease cost and delay the development of resistance.

CYTOMEGALOVIRUS (CMV) INFECTION

Fortunately, effective ART has significantly reduced the rate of CMV disease in people with HIV infection, but 40% of people with untreated AIDS eventually develop active, life- or sight-threatening CMV disease. Up to 40% of clients with CD4+T cell counts <50 cells/mm³ develop CMV retinitis. Prophylaxis with oral ganciclovir may be considered for clients who are CMV seropositive and whose CD4+T cell counts are <50 cells/mm³.

WELLNESS COUNSELING

Counseling a client to actively engage in a healthy lifestyle can have a significant impact on disease progression. What can clients do to maintain and improve their health?

Many of the guidelines for maximizing health and wellness are general health promotion strategies, with some specific considerations for HIV-infected individuals.

Case Study: Michael



There are no HIV support groups in your area. You propose to Michael that he talk to the mental health counselor at the clinic, but he seems uninterested.

He tells you that he's been going to an Alcoholics Anonymous meeting at the Community Center once a week.

Michael tells you that he misses the gay community in the city. He says that he met some gay and lesbian Native Americans there and they were talking about starting a Two Spirit group. He sometimes thinks about returning to the city.

Mental health intervention is very important. In any given case, a client may benefit from one or more of the following:

- Stress management
- Social support
- Support groups
- Counseling therapy
- Meditation, relaxation, biofeedback
- Spirituality and religious support
- Bereavement counseling for anticipatory grief, multiple loss issues
- Couples counseling or family therapy
- Evaluation of pre-existing mental illness



or emotional reactions that might respond to medication in combination with supportive counseling

Smoking and drug use cessation can relieve the immune-suppressive effects of these activities. Clients can take advantage of available cessation programs for the general population, including support groups, 12-step programs, acupuncture, and prescription and over-the-counter medications.

Exercise is beneficial to the overall health of people who have HIV. It promotes fitness, relieves stress, facilitates weight management, and contributes to general physical and emotional well-being. Excessive exercise and extreme activities that stress the body should be avoided. Encourage clients to maintain a good fitness level and an active lifestyle, including activities they have previously enjoyed, or perhaps new ones. Some good exercise activities include walking, aerobics, lifting weights, and swimming.

Adequate rest/sleep is important in maintaining general health.

Good nutrition is important to provide the body with the necessary macro- and micro-nutrients to carry out its normal restorative and reparative functions. At times, symptoms of HIV infection such as nausea, diarrhea, fatigue, and oral manifestations interfere with a client's desire and ability to maintain an adequate diet. Loss of appetite and infection-related absorption problems may contribute to weight loss. Food safety is an important issue. Clients should

be instructed to avoid raw shellfish, seafood, meat, eggs, or unpasteurized dairy products. It also is important to maintain a clean food preparation environment to minimize food borne infection. Clients should follow general nutrition guidelines, eating a variety of foods from the basic food groups, adjusting caloric intake when necessary, and maintaining a lean body mass. Because of its important role in health promotion, nutrition counseling should be provided to all infected clients.

Case Study: Linda



Linda wants to know if it is okay for her to dance at powwows.

She shares that in her childhood she was a jingle dancer, but is thinking now about dancing traditional style. You encourage Linda to dance and tell her that exercise is an important component in maintaining her physical and emotional well-being. Linda smiles and says, "Thank you."

Sexuality is a particularly important area for client counseling. Sexual desire does not terminate with an HIV diagnosis. It is important that clients learn to accommodate their sexuality in ways that are fulfilling to them but prevent the transmission of infection to others. It also is important for clients to protect themselves from further infection with HIV and other STDs. Clients can be encouraged to explore a wide range of intimate non-intercourse activities. Clients should be encouraged to protect their sexual partners with condoms when intercourse is considered. Providers who are not sufficiently comfortable or knowledgeable in this area should refer clients to counseling services.

What is the role of alternative therapies for HIV-infected clients?

Some alternative therapies may be beneficial if they enhance the client's sense of well-being and reduce stress. Some may contribute to strengthening the immune system while others may help clients deal with symptoms or the side effects of drug therapy. Traditional healing and other culturally based practices have been found to be beneficial for HIV-infected Native Americans. Accessing these services can offer a foundation from which clients can address a variety of physical, mental, and spiritual issues as they move toward a more complete state of wellness. Other forms of spiritual healing, massage therapy, acupuncture, and acupressure also can be effective. These are sometimes referred to as adjunct therapies. Some therapies, however, have potentially negative consequences. St. John's Wort and vitamin E, for instance, have been shown to interfere with some of the agents used in ART. Vitamins in huge doses are taken by many HIV-infected clients. It is important to watch for toxicity with fat-soluble vitamins A, D, E and K. Many clients are well educated about a broad spectrum of treatments – traditional, adjunct, and experimental. Some may confuse reports of activity in laboratory tests with efficacy in clinical trials, however. They may have access to "gray market" supplies of unapproved treatments, some of which have severe side effects. Clients should be warned about unproven therapies and about the potential for fraud and quackery, but in a manner that does not discount efforts at self-care.

Case Study: Michael



Michael brings his mother to his next appointment because she wants to find out more about HIV and the medications he's taking.

Michael's mother tells you that she wants Michael to use traditional medicine instead of antiretroviral therapy because of the side effects he has been experiencing. You know that traditional healing methods have the potential to contribute to Michael's sense of well-being and you support the use of alternative therapies, especially traditional medicine. However, you tell her that the medicine you have given him has already helped Michael and that it would be beneficial for him to continue. You tell her that there are things that you can do to help with the side effects. You also suggest that some traditional healing methods can help and that the three of you can work together to keep Michael healthy and comfortable. She smiles and tells you that she doesn't want to lose another son, and that she trusts that you will do what is best for him.

Clients may need guidance to avoid expensive and dangerous forms of alternative treatments. It is important to remember, however, some alternative therapies may be beneficial and should always be thoroughly explored. Knowing what the client is using will allow the provider to monitor the effects of various therapies, taking them into account when making treatment recommendations. Clinicians should encourage clients to discuss all therapies, including those that are non-traditional. An open relationship with good communication creates a positive atmosphere for addressing difficult issues, allows open discussions of treatments, and encourages an honest exchange of information. It also reinforces a philosophy of the client as an important member of the health



care team. Discussions such as these can go a long way toward preventing the use of alternative therapies that are incompatible with prescribed medications (and vice versa).

Case Study: Linda



At her next visit, Linda appears to be depressed. She has tears in her eyes and when you gently question her, she says, “There is just so much to know.

Sometimes I think it would just be easier to start using again. I know that wouldn’t be good for me or my son, but it is just so hard!” You spend time talking to her about her problems and work with her on thinking about solutions. She agrees to call you if she feels overwhelmed again.

How do you make the information you give to clients useful?

A number of tactics can help make information more useful to clients:

- Assess the client's understanding of HIV infection and needs/readiness for change.
- Help the client change by encouraging safer behavior and providing resources such as support groups, acupuncture, counseling, etc.
- Identify education resources and refer clients to information as needed.
- Have printed information and videos available in appropriate languages and educational levels.
- Do not expect clients to make sudden, major changes in habits and behavior. Help the client plan and prioritize the

changes that are chosen. Reinforce incremental changes.

- Be willing to see a client at frequent intervals until a satisfactory level of knowledge and emotional stability to support self-care abilities has been attained. -

Client needs for information will vary over the course of illness. Open, effective communication between the provider and client will facilitate the best possible mutual exchange of information, the best basis for clinical decision-making, and maximum client well-being.

CONCLUSION

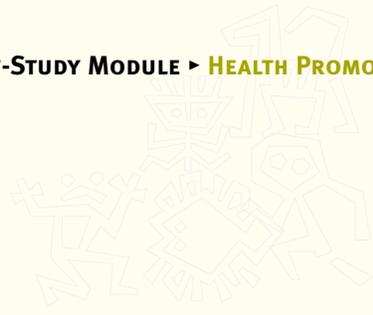
Native American HIV-infected clients can face many difficulties in their home environments: loss of privacy, isolation, stigmatization, negative social repercussions, and, in many cases, reduced access to appropriate care due to lack of available local resources. Conversely, these same clients can also experience the comfort and support of family, home, and community that plays an important role in the well-being of those faced with this difficult illness.

Clients like Linda and Michael will become increasingly common in reservation communities. Native American HIV prevalence continues to rise, and even the smallest communities are being touched by its presence. It is likely that many reservation and rural providers will eventually come face to face with the HIV epidemic in the form of HIV-infected individuals within their communities and practices as HIV and AIDS become more and more a part of the world in which we live.

Reservation and rural providers face unique challenges to incorporate HIV-related prevention services and support into their practices. Health care demands are high in these practices, and providers often face difficulties in accessing up-to-date training, information, and resources. Excellent national and state-wide consultation networks have been developed to reduce these barriers. Some are listed in the appendices to this manual. Others can be accessed via the Internet, which is becoming an increasingly important mechanism for connecting to current information and resources.

Health care providers cannot assume that HIV will not touch them or their clients. Providers can play an important role in Native American communities by assessing HIV infection risk for all clients and by ensuring that all at-risk clients have the knowledge necessary to protect themselves from infection. By becoming involved in HIV prevention and the care of infected individuals, providers can create an effective and positive response to the HIV/AIDS epidemic in Native communities. At this stage of the epidemic, when infection rates are at relatively low levels, informed health care providers can help prevent the expansion of HIV within the Native population, saving innumerable lives, as well as provide health care to those who are already infected. -





Case Studies

Michael's and Linda's stories do not end here.

In the ensuing months and years following their diagnoses, they will each need to accommodate the changes that HIV has brought to their lives, to develop strategies to maximize their health and well-being and to participate in the management of their illnesses. Their relationship with their caregivers is an essential component of this process.



Study Questions, Part IV

Determine whether each statement is true or false:

1. *Once an HIV-infected client has had *Pneumocystis carinii* pneumonia (PCP), prophylactic therapy or PCP is no longer required.*
2. *Standard prophylactic therapy for PCP can also prevent CNS toxoplasmosis and serious bacterial infections in HIV-infected clients with low CD4+T cell counts.*
3. *Oral hairy leukoplakia and oropharyngeal candidiasis in an HIV-infected client are prognostic indicators for disease progression.*
4. *Most opportunistic infections in HIV are not communicable to people with intact immune systems.*
5. *HIV can be eliminated from the body with successful antiretroviral therapy.*
6. *Primary care providers with limited HIV experience would benefit from consultation and referral services when caring for a patient with HIV.*
7. *Adherence to antiretroviral therapy is strongly influenced by the client-provider relationship.*
8. *Monotherapy with zidovudine (AZT, ZDV, Retrovir®) is a reasonable first prescription for a client with established HIV infection.*
9. *HIV Lipodystrophy Syndrome is a rare, but annoying, side effect of antiretroviral therapy.*
10. *Successful antiretroviral therapy does not seem to influence the occurrence of opportunistic disease in HIV infection.*
11. *Open discussions with HIV-infected clients about alternative therapies can lead to increased understanding of the client's health status.*
12. *Routine mental health assessment and intervention as needed can help to improve the HIV-infected client's physical health.*

Answers and discussion can be found in the Resource section.



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STUDY QUESTIONS: ANSWERS AND DISCUSSION

PART I – BACKGROUND INFORMATION

1. True. Clear evidence exists for human immunodeficiency virus infection leading to a broad spectrum of illnesses including AIDS.
2. False. HIV infection can exist for many years in various levels of illness prior to a diagnosis of AIDS.
3. False. HIV is an RNA virus that replicates in the presence of reverse transcriptase by making viral DNA before it can produce new viral RNA.
4. True. HIV's predominant pathologic influence on the human body lies in its ability to affect the immune system through the destruction of CD4+T lymphocytes.
5. False. HIV can be transmitted to others as soon as the initial viremia occurs, usually within a few days of exposure and infection.
6. False. American Indian/Alaska Native cultures are diverse and are influenced by differing historical perspectives, traditions, languages, and socioeconomic factors.
7. True. Death rates attributable to accident, suicide, chronic liver disease, alcoholism, and diabetes mellitus are higher among Native Americans.

8. True. Many Native Americans adhere to a holistic perspective of health and health care.
9. False. Native Americans are frequently highly mobile, moving between various communities as needed to achieve specific goals.

10. False. While knowing a specific Native language would enhance a clinician's ability to provide care in that community, cultural values are a deeply-imbedded part of the entire culture.

PART II – HIV PREVENTION

1. True. Risk assessment on every client provides critical information that can positively influence health care outcomes.
2. False. Since there is no accurate way to predict the outcome of HIV-antibody testing, pre-test counseling should be offered to everyone considering the test. Pre-test counseling also provides a valuable opportunity to discuss prevention and risk-reduction practices.
3. False. Occupational exposure to HIV infection as a result of a needle stick injury causes transmission of HIV to the health care worker only 0.3% of the time, on average. Certain kinds of exposures (i.e. exposure to large quantities of blood and deep wound injuries) can increase the risk to 1-2%.
4. False. Sputum has never been shown to transmit HIV infection.
5. True. HIV is primarily transmitted through

sexual intercourse with unprotected anal intercourse creating the most risk and unprotected oral intercourse creating less of a risk.

6. C – breast feeding is a well-established cause of HIV transmission to infants.

7. D – none of the scenarios involved an exposure that would readily introduce HIV into a health care worker's body.

8. B – the risk of HIV infection as a result of a blood transfusion in the U.S. today is 1 in 400,000. Risk of perinatal transmission is also very low; when ART is provided the risk of transmission is less than 2%.

9. A – “When was the last time you shared injection equipment?” is an open-ended question that tells the client you are willing to discuss IDU issues; it is non-judgmental and leaves the door open for future discussions of injection practices.

10. C – oil-based lubricants should not be used with condoms because they can weaken the latex or polyurethane and increase the risk of breakage.

PART III – EARLY INTERVENTION

1. True. HIV-antibody testing requires that an initially-positive test not be reported until the screening test is repeatedly positive and then confirmed with another test.

2. False. No currently available HIV-antibody



test can determine the presence of HIV infection in less than the time that it takes the body to produce sufficient quantities of antibody, usually 3-12 weeks.

3. False. All clients who have undergone HIV-antibody testing should have post-test counseling. Even if the test is negative, counseling allows the clinician to reinforce prevention and risk-reduction messages.

4. True. CD4+T cell counts are a direct indicator of the functional level of the immune system. Low CD4+T cell counts are associated with decreased survival and high CD4+T cell counts are associated with increased quantity and quality of life.

5. False. Symptoms of acute retroviral syndrome provide indications for the initiation of ART.

6. True. Confidentiality about HIV test results is a concern for all clients. Native American clients often receive care in small communities (even when they live in urban areas) and breeches of privacy have had devastating effects on some of these clients.

7. True. HIV is a chronic health care condition. As with all chronic diseases, a holistic and comprehensive approach to care is the most beneficial.

8. False. HIV-infected clients have compromised immune systems and are, therefore, at greater risk of contracting any infectious disease, including TB.

9. True. Viral load is a measure of the ability of HIV to circumvent host immune function and to replicate and wreak havoc on the body. The higher the viral load, the more the client is at-risk for morbidity and mortality.

10. False. Termination of pregnancy is one of many options available to HIV-infected pregnant women. While abortion should be a part of the comprehensive discussion with these women, other options including continuing the pregnancy with or without ART must be considered as acceptable alternatives.

PART IV – HEALTH PROMOTION

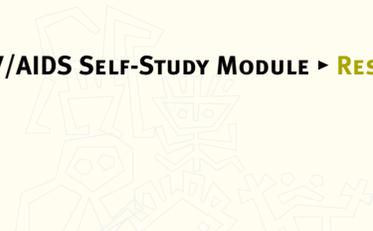
1. False. Any client who has had an active case of PCP is at increased risk of relapse and is a prime candidate for continuing PCP prophylaxis.

2. True. An added benefit of PCP prophylaxis is that it also prevents other diseases including toxoplasmosis and some bacterial infections.

3. True. Both OHL and thrush indicate a deteriorating immune system and a decrease in the body's abilities to fend off other, more deadly, conditions.

4. True. Opportunistic diseases are, by definition, those that would not occur if the host had a fully functional immune system.

5. False. No currently available treatment option appears to be able to eliminate HIV from reservoirs in the lymph nodes and other organs. Even if the viral load is undetectable in the blood,



HIV remains present in other organ systems.

6. True. The evolution of treatment for HIV infection has created extremely complex therapy regimens, all of which must be monitored carefully to enhance benefit and decrease the risks of toxicity and resistance. Consultation and referral, as with any complex care situation, provides the needed information to assure quality care.

7. True. There is clear evidence that positive client-provider interactions can influence client willingness and ability to adhere to complex treatment regimens.

8. False. Monotherapy is rarely indicated for the treatment of HIV infection because of the risk of the development of drug resistance.

9. False. HIV Lipodystrophy Syndrome is an increasingly common complication of long-term survival and/or treatment in HIV infection. It causes problems that are not only cosmetic and annoying, but potentially life-threatening.

10. False. Successful ART that results in increased CD4+T lymphocyte counts and decreased viral loads has been clearly demonstrated to decrease the incidence of all opportunistic diseases.

11. True. Clinicians who are willing to discuss the full spectrum of treatment options with HIV-infected clients are in a better position to positively influence client decisions to adhere to proven therapies.

12. True. Mental health issues have a great

influence on the abilities of clients to maintain health care practices including adherence to treatment regimens and involvement in positive health practices including exercise, appropriate nutrition, and adequate sleep.



MOUNTAIN PLAINS AIDS EDUCATION AND TRAINING CENTER

E-MAIL CONSULTATION SERVICE FOR HIV INFECTION

Clinicians treating patients with HIV infection may access an e-mail-based electronic consultation service with questions about diagnosis, treatment, and management of HIV.

Why an e-mail consultation service specific to HIV infection?

- Information about HIV infection and AIDS is expanding so rapidly that only the most invested clinicians can keep up.
- Morbidity and mortality in HIV can be reduced when the most up-to-date care is provided.
- As new therapies, resources, and information about HIV develop, clinical care becomes more complex.
- A fast, easily accessible consultation resource can support delivery of the best care possible.

How does e-mail consultation work?

- The clinician sends questions to the consultant's e-mail address. -
- The question is reviewed by the consultant who either answers the question or forwards it on to another clinician with specific expertise in that area.
- A response is generated and sent back to the inquirer.
- Frequently asked questions (FAQs) and responses to those questions will be published on the MPAETC web page (<http://uchsc.edu/sm/aids>).

How to access consultation service.

E-mail your state's consultant:

Colorado: Steven Johnson, MD
hivconsultation@UCHSC.edu

Kansas: Donna Sweet, MD
dsweet@kumc.edu

Nebraska: Susan Swindells, MD
sswindells@unmc.edu

New Mexico: Elaine Thomas, MD
ethomas@salud.unm.edu

North Dakota: Robert Tight, MD
ndhiv@medicine.nodak.edu

South Dakota: Donald Humphreys, MD
clowman@usd.edu

Utah: Kristen Ries, MD
kristen.ries@hsc.utah.edu

OR, Contact the Denver Office Directly:
HIVConsultation@UCHSC.edu

HOW IS CONFIDENTIALITY ASSURED?

- Clinicians are asked to word questions in a manner that protects the patient's identity.
- No names should be transmitted with questions.
- Questions and responses stay within the system.
- Publications of FAQs will remove any identifiers, including state of residence, clinician name, and patient identifiers that are not essential to the case.

ROSTER OF NATIONAL AIDS EDUCATION AND TRAINING CENTERS

Serving Arkansas, Louisiana, Mississippi:

Delta Region AIDS ETC

LSU Medical Center

Jane Martin, MA, RN, FNP

(504)903-0788

Serving Florida:

Florida AIDS ETC

University of South Florida

Michael Knox, PhD

(813) 974-4430

Serving Ohio, Michigan, Kentucky, Tennessee: -

Great Lakes to Tennessee Valley AIDS ETC -

Wayne State University -

Ali M. Naqvi, PhD -

(313)962-2000 -

Serving Illinois, Indiana, Iowa, Minnesota, -

Missouri, Wisconsin: -

Midwest AIDS Training and Education Center -

University of Illinois at Chicago -

Nathan Linsk, PhD -

(312)996-1373 -

Serving North Dakota, South Dakota, Utah, -

Colorado, New Mexico, Nebraska,

Kansas, Wyoming: -

Mountain-Plains Regional AIDS ETC -

University of Colorado Health Sciences Center -

Constance Benson, M.D. -

Lucy Bradley-Springer, PhD, RN, ACRN -

(303)315-2516 -

National AETC Evaluation Center

Columbia University School of Public Health

Peter Messeri, PhD

(212)305-1549

National AETC Resource Center

Johns Hopkins School of Medicine

Division of Infectious Diseases

John Bartlett, M.D.

(410)955-7634

National Minority AETC

Howard University College of Medicine

John McNeil, M.D.

(202)865-3300

Serving Connecticut, Maine, Massachusetts,

New Hampshire, Rhode Island, Vermont:

New England AIDS ETC

Donna Gallagher, RN, MS, ANP

(617)566-2283

Serving New Jersey:

New Jersey AIDS ETC

University of Medicine and Dentistry
of New Jersey

Dion Richetti

(973)972-3690

Serving New York and the Virgin Islands:

New York /Virgin Islands AIDS ETC

Columbia University School of Public Health

Natalie Neu, M.D.

(212)342-5218



Serving Washington, Alaska, Montana,
Idaho, Oregon: -
Northwest AIDS ETC -
University of Washington -
Bernadette Lalonde, PhD -
(206)685-6841 -

Serving Nevada, Arizona, Hawaii, California: -
Pacific AIDS ETC -
University of California, San Francisco -
Western Division -
Michael Reyes, M.D., MPH -
(415)502-8196 -
Southern Division -
Jerry Gates, PhD -
(213)342-1846 -

Serving Pennsylvania, Delaware, Maryland, -
Virginia, West Virginia, Washington, DC: -
Pennsylvania/Mid-Atlantic AIDS ETC -
University of Pittsburgh -
Linda Frank, PhD, MSN, ACRN -
(412)624-1895 -

Serving Puerto Rico: -
Puerto Rico AIDS ETC -
University of Puerto Rico
Medical Sciences Campus -
Daisy M. Gely, MPHE -
(787)759-6578 -

Serving Alabama, Georgia, North Carolina, -
South Carolina: -
Southeast AIDS Training and
Education Center -
Emory University -
Ira Schwartz, M.D. -
(404)727-2929 -

Serving Texas and Oklahoma:
Texas and Oklahoma AIDS ETC
Parkland Health and Hospital System
Philip Keiser, M.D.
Sylvia Moreno
(214)590-5529

NATIVE AMERICAN RESOURCES

NATIONAL

National Indian Health Board
Denver, CO
303/759-3075
www.nihb.org

National Native American AIDS
Prevention Center
Oakland, CA
510/444-2051
www.nnaapc.org

EAST

American Indian Community House
HIV/AIDS Project
New York, NY
212/598-0100

Catawba Indian Nation
Catawba, SC
803/366-6721

MIDWEST

Ahalaya Native Care Center, Inc.
Oklahoma City, OK
405/235-9988

Indigenous People's Task Force
Minneapolis, MN
612/870-1723

Montrose Counseling Center
American Indian Program
713/529-0037

Native American Health/AIDS Coalition
Kansas City, KS
913/342-5400

SOUTHWEST

All Indian Pueblo Council, Inc.
Albuquerque, NM
505/884-3820

First Nations Community Health Source
Albuquerque, NM
505/262-2481

HIV Center for Excellence
Phoenix Indian Medical Center
Phoenix, AZ
602/263-1502

Inter Tribal Council of Arizona, Inc.
Phoenix, AZ
602/258-4822
www.itcaonline.com

Native American Community Health Center
Phoenix, AZ
602/266-6363

Navajo AIDS Network, Inc.
Chinle, AZ
928/674-5676

Navajo Nation AIDS Office
Window Rock, AZ
520/871-6250

NORTHWEST

Chugachmiut
Anchorage, AK
907/562-4155

NORTHERN CALIFORNIA

Native American AIDS Project
San Francisco, CA
415/552-4246
www.sfo.com/~denglish/naap

Native American Health Center
San Francisco, CA
415/621-8051
www.uihbi.org

SOUTHERN CALIFORNIA

San Diego American Indian Health Center
San Diego, CA
619/234-2158

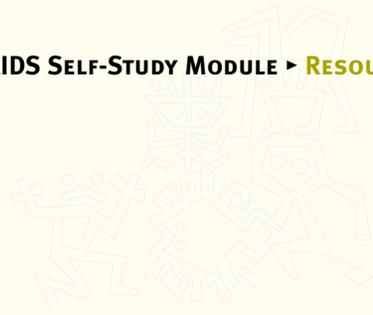
United American Indian Involvement
Los Angeles, CA
213/353-9429

HAWAII

Ke Ola Mamo
Honolulu, HI
808/533-0035

Life Foundation
Honolulu, HI
808/521-2437





Maui AIDS Foundation

Wailuku, HI
808/242-4900

Papa Ola Lokahi

Honolulu, HI
808/536-9453

